UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Distr.
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UNIDO/IS.[illegible]
[illegible] March 19[illegible]

English

ARAB DEMAND FOR
CAPITAL GOODS IN THE SHORT,
MEDIUM AND LONG TERM

Sectoral Working Paper Series

No. 18

Sectoral Studies Branch
Division for Industrial Studies

V.84-83131

SECTORAL WORKING PAPERS

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Preface

This document has been prepared for the Sectoral Studies Branch, Division for Industrial Studies as part of a project entitled "Techno-economic study for the development of the capital goods industry in the Arab world" (Project No. UF/RAB/82/123) undertaken in co-operation with the the Arab Industrial Development Organization (AIDO). The objectives of this project were to encourage the establishment of capital goods industries in Arab countries and support regional co-operation and integration. Other documents issued in relation to this project included "Capital Goods in Perspective: Definition, Importance and Analysis of Factors Affecting Demand with Special Reference to Arab Countries" (UNIDO/IS.420) and "Arab Trade in Capital Goods" (UNIDO/IS.421).

These documents will also be used as inputs to the ongoing study programme on the capital goods industry which is carried out by the Sectoral Studies Branch.

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1.0 Introduction

1.1 The Issues: Why Capital Goods?

The capacity to produce output at any point in time is generally embodied in a given volume of capital goods of particular composition. To increase the flow of output it is often necessary to increase the capital stock. The latter is defined here to include the fund of physical implements, tools and fixtures in the economy at any given specified date. The capital stock is augmented through investment which is strictly defined as the net addition to this fund of physical implements, tools and fixtures over a given period of time. This addition to the capital stock could be effected through domestic production of capital goods and/or their importation. Developing countries generally produce few or no capital goods and have to import the bulk of these requirements. As such their capacity to increase production is no longer restricted solely by the available savings; the availability of foreign exchange may also be a crucial limiting factor.

Even when savings are abundant and foreign exchange is in adequate supply, dependence on imported capital goods may not be in the best interests of the developing country. In the first place, the design may be geared to the market conditions and factor proportions of the producing country rather than the importing country. The specifications of the capital good could only be appropriate for both countries if the two countries face markets of equal size, produce the same range of goods and have similar factor prices, and these correspondences are rare. Secondly, the importing country will forego the industrial experience of producing this good and all the benefits that are associated with its production -- value added, export earnings (saving imports), industrial training, and so on. Thirdly, there is the added question of vulnerability that arises out of importing a critical input whose steady supply can determine the rate of flow of domestic production. Finally, the capital goods sector occupies a very special position within the structure of production of any economy, but particularly in developing countries. This key position arises because of technical foward and backward linkages among sectors. In the hierarchy of production characterized below in Table 1.1, the capital goods sector is one of the few sectors on which every other sector depends. The reverse is not true in a strict sense, and thus it follows that the prior existence of this sector is necessary for the steady flow of production within this system. Because the capital goods sector is necessary for almost all other sectors, special attention must be paid to the availability of capital goods. According to Table 1.1, if there were to be any differential priorities, the capital goods sector should be promoted first since its existence underlies all other sectors and it depends least on other sectors. At the same time the information in the table suggests that the growth of any one sector must be linked to growth in those sectors into which it feeds its output. Industrial maturity is characterized by rich and stable interactions among producing sectors. Industrial maturity can be reached most quickly by basing the sequence of investment and expansion on the heirarchy of sectors.

Table 1.1 The Input-Output Relationships Among the Sectors

Outputs Inputs	Food	Petrochemicals	Basic Industries	Capital Goods	Energy
Food	✓				
Petrochemicals	✓	✓	✓		
Basic Industries		✓	✓	✓	
Capital Goods	✓	✓	✓	✓	✓
Energy	✓	✓	✓	✓	✓

An investment strategy emphasizing capital goods in developing countries is often motivated on the grounds that it generates its own savings. Workers are paid wages in the production of capital goods; but because these goods are not available for consumption, the outcome is forced saving. This logic is not complete, however, unless the threat of inflation embedded in this phenomenon of excess demand is checked by appropriate fiscal and monetary measures. This argument for promoting capital goods is not relevant for oil rich countries, it is particularly relevant however for countries such as Egypt. It is also to be recognized that a strategy to promote the production of capital goods must maintain a high rate of growth of overall demand in the economy. The rate of profit in capital-intensive industries and the rate of capacity utilization in these industries are positively related to the level of demand for their products. Thus, to increase the production of capital goods, it is necessary to increase the demand and supply of wage goods, at least in some proportion to one another.

Development of the capital goods sector also requires an accommodating income distribution system. To promote demand for capital goods, profit rates must rise (they often do) relative to wages, this may bias the income distribution towards the social enclaves who exhibit high marginal propensities to consume luxury and imported goods. Thus the positive outcome on savings may be wiped out by a negative distributional effect. Thus not only are stabilization policies needed to effect balance in macroeconomic relationships between aggregate demand and aggregate supply, other policies are also needed to balance profit incentives with demand requirements.

Developing countries contemplating the promotion of a capital goods producing sector need to consider, among other things, two basic questions. First, there is the question of the appropriateness of import substitution. Secondly, there is the question of whether capital goods should be used to produce capital goods or produce consumer goods.

The appropriateness of import substitution is a difficult question, particularly for developing countries such as the Arab oil-exporting countries, since at any given set of international prices facing the economy it may very well be the case that a given amount of heavy machinery can be obtained at a substantially smaller resource cost through trade than through domestic production. This choice is only relevant given a basic level of industrialization and a recognized capacity to export. Equally important is the realization that import-substitution policies in developing countries have frequently begun from the wrong end of the spectrum of production. In these countries, import substitution activity has begun with the manufacture of products that correspond to the more advanced stages of development and use highly capital intensive techniques. The result has often been a distortion in the allocation of resources in favour of exports and luxury goods, to the detriment of the production of mass consumption goods. Any development strategy based on "profitability" given the existing structure of income distribution, relative prices, and demand may lead to this type of systematic distortion. When capital goods are used to extract natural resources for export or to produce luxury goods, the net result is greater dependency on the outside world, both as a source of demand and as a source of technology. This strategy may also imply massive unemployment in the economy.

The other basic choice pertains to the nature of the capital goods. Should they be primarily machines that are used directly to produce consumer goods or should they be capital goods that are used to produce other capital goods? Emphasis on heavy industry would require an increase in the output of capital goods producing capital goods over time; the diversion of capital goods to produce wage goods would be seen as a leakage from capital accumulation. In this context, the increase in the capacity of the economy to produce output can be achieved by minimizing this leakage and by increasing the share of resources devoted to the production of capital goods producing other capital goods. This strategy ultimately boils down to a maximization of the share of investment going to heavy industry.

The emphasis on the production of capital goods producing capital goods was given mathematical rigour by Feldman and Mahalanobis.[1] The Mahalanobis model divides the economy into two broad sectors: the investment-goods and consumer-goods sectors. Current investment is divided into two parts, $r_k I_t$ and $r_c I_t$, where r_k and r_c indicate the proportions of total investment going to investment-goods and consumption-goods sectors, respectively. If b_k and b_c are the output-capital ratios in these sectors, and S_o is the initial rate of investment, it follows then that

$$I_t = I_{t-1} + b_k r_k I_{t-1} \tag{1}$$

$$C_t = C_{t-1} + b_c r_c I_{t-1} \tag{2}$$

$$S_o = I_o / Y_o \tag{3}$$

The solution of equation (1) is

$$I_t = I_o (1 + r_k b_k)^t \tag{4}$$

which upon substitution in (2) results in the difference in equation (5).

$$C_t = C_{t-1} + I_o b_c r_c (1 + r_k b_k)^{t-1} \tag{5}$$

which has the following solution

$$C_t = C_o + I_o r_c b_c [(1 + r_k b_k)^t - 1] / r_k b_k . \tag{6}$$

Adding (4) and (6) we derive the income equation,

$$Y_t = Y_o + I_o (r_k b_k + r_c b_c) \; [(1 + r_k b_k)^t - 1] / r_k b_k \tag{7}$$

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[1] P.C. Mahalanobis, "The Approach of Operational Research to Planning in India", SANKHYA, Vol. 16, 1955.

From (3) and (7) we derive the growth path of the economy,

$$Y_t = \frac{Y_o(1+S_o)(r_k b_k + r_c b_c)[(1+r_k b_k)^t - 1]}{r_k b_k} \tag{8}$$

It is clear from equation (8) that the rate of growth of the economy depends upon S_o, r_k, b_k, b_c and time. Since S_o is an initial condition (a datum), and b_k and b_c are determined by technological factors, it follows that r_k and r_c are the decision variables that influence the growth of income. More important is perhaps the fact that if $b_c > b_k$, a higher value of r_k would result in a lower increment in income in the short run but a higher growth rate of income in the long run. Thus a higher r_k should generally have a favourable effect on the asymptotic growth rate of the system. The choice of r_k determines the output, consumption and investment streams. If the aim is to achieve a high rate of growth of consumption in the future, then priority must be accorded to the development of capital goods over consumer (wage) goods.

This model is based on the assumption of a closed economy, it ignores the demand side of the economy, and its two sector classification involves a very high degree of aggregation that renders it unusable for computational purposes. But, despite all of these limitations, the model still provides a number of powerful insights into the growth process of the economy and the role of the capital goods sector.

The development of a capital goods sector thus involves a number of fundamental economic issues. There are critical questions about balanced growth possibilities: there are fundamental choices between present and future consumption streams; there are questions about the development of technological capabilities without which capital goods production is difficult if not impossible; there are questions about the mix of domestic production and imports of capital goods; there are questions about efficacy of macroeconomic policy in mobilizing savings and controlling inflation during the development stage; there are questions about the distributional implications of the strategy to promote capital goods, etc...

Although not all of these issues are relevant to the Arab world, most of the questions pertain rather directly to the experience of the Arab World today given its lagging performance in this specific area of development.

1.2 The Arab Capital Goods Sector: A Synopsis

The production of capital goods involves a number of pre-requisites and pre-conditions because of the complex nature of their production processes. Among the most notable pre-requisites is the existence of a sophisticated engineering infra-structure. This includes skilled workers, engineers, design capacities, research and development capabilities, and a host of industrial and processing services. The latter specifically encompass metal foundry work, forging capacities, general iron and steel fabrication and the availability of specialized machinery. In addition, the general industrial infra-structures must be present: roads, communication facilities, serviced industrial sites, and raw materials.

The list of requirements is long and diverse because expansion of this sector requires a complete and balanced production sequence. For these reasons growth of the capital goods sector is difficult to establish and maintain.

The history of the industrialization of Western nations began with machine tools and implements. The surplus of agriculture was utilized primarily in meeting agriculture's need for equipment and mechanization which increased the agricultural surplus and made possible its allocation to other activities, both economic and cultural.

The Arab World, despite its vast resources and its huge size is a collection of fragmented markets with very little economic interrelatedness among these parts. Capital goods production is dependent on external and internal scale economies. As such and without reference to the many other obstacles to production of capital goods, unless the Arab markets are aggregated together at least on the basis of meaningful sub-regional associations, they will not provide sufficient stimulus for the production of this type of complex and scale sensitive product.

It is not surprising to find that only a few capital goods are produced in the Arab World and primarily only in a few countries. Much of what is produced is simple, small and is produced on a limited scale. The major demand for capital goods is satisfied through imports. The latter met 95 percent of the total demand of the Arab area in 1980. Gross output data of the capital goods sector are misleading in most Arab countries as they generally include repair services of machines. This results in an over-stated level of output of this sector and more overstatement of employment in this sector. This was particularly the case in Kuwait, which in 1977 showed an employment of 38.7 thousand in the capital goods sector and in Tunisia where employment in this sector was put at 120.4 thousand in 1979.

Egypt, which is itself a large market, is the major Arab producer of capital goods. More than 754.3 thousand workers were employed in this sector in 1976 and it produced over $2.2 billion of value added in 1975. But even in Egypt the range of capital goods produced are narrow and restricted to simple products. When complex products such as cars, tractors, generators, etc., are produced, the Egyptian contribution is rather minimal often involving only simple assembly operations.

1.3 Purpose of the Study

The purpose of this study is to provide a forecast of the demand for capital goods by product and Arab country for the years 1985, 1990 and 2000 under alternative hypotheses about the rates of growth of GDP and sectoral shares in each Arab country. These forecasts are to be used in formulating a joint Arab strategy of capital goods production.

The study is divided into sections. Section 2 deals with methodology. The third and fourth sections are devoted to the presentation of results. Section 5 concludes with a discussion of a tentative programme for the expansion of capital goods production in the Arab countries.

2.0 The Methodology Underlying the Capital Goods Forecasts

2.1 General Framework

The objective is to provide forecasts of imports of specific capital goods (the 80 categories of "engineering products" included in the published data for the SITC category 7 and "manufactures of metal, SITC 69) by individual Arab countries. Forecasts have been generated for eleven countries or groups of countries: Algeria, Egypt, the G.C.C. (excluding Saudi Arabia), Iraq, Jordan, Libya, Morocco, Saudi Arabia, Sudan, Syria and Tunisia.

Ideally, these forecasts should be generated by comprehensive, consistent, and detailed models for each industry in each of the countries involved, which are then integrated into models of the countries and the region. However, a model of this type capable of generating forecasts of capital goods imports at the level of detail desired in this study would have to be very large. Models of this type are rarely found, even in the major developed countries. For example, Informetrica, a private consulting firm in Ottawa, maintains a 5,000 equation model of the Canadian economy which, despite its large size, does not provide the detailed forecasts envisioned in this study.

. A much more practical approach, adopted here, is to attack the problem into two stages. In the first stage forecasts of major macroeconomic variables at a highly aggregated level are generated for each country. In the second stage, detailed forecasts of capital goods imports are based on the much less detailed forecasts of macroeconomic variables. Since the macroeconomic variables which are generated in the first stage must fit into the second stage, we will discuss the second stage first.

2.2 The Forecasts of Capital Goods Imports

2.2.1 The Conceptual Framework

Capital goods imports are of primary concern because there is very limited production of most capital goods in most of the countries investigated. This fact has two implications. The first is that possibilities for increased domestic production of capital goods (import substitution) should be of primary concern to the Arab countries. This provides the basic orientation of this study. The second implication is much more practical; namely, that for most products and countries imports can be viewed as identical to total demand. Thus, our forecasts can be interpreted as forecasts of demand for most of the capital goods considered in the study.

What, then, is the most appropriate method for forecasting the demand for specific capital goods in each Arab country? Some of the classifications are narrowly defined so that the capital good can be identified with one particular sector; for example, pulp and paper machinery (SITC 718.1). Others are not specific to particular sectors, being broadly used throughout the economy, such as calculating machinery (SITC 714.2). Where possible, it would seem desirable to relate the demand for a specific capital good to economic variables relevant to the using sector or sectors. The major difficulty in this regard is the absence of readily available time series data on economic activity at a detailed sectoral level. The only sectoral data available for all Arab countries are the time series of value-added by sector published in the Yearbook of National Accounts Statistics, although somewhat more detailed data are available in special studies for a few of the countries under consideration. There are no time-series data on the price of output by sector, on input prices by sector, or on investment or capital stock by sector, although some of these variables might be constructed from other available data. Thus the scarcity of relevant data is a significant constraint on the preparation of these forecasts.

A second important consideration is the nature of the choice of sectoral investments in these countries. In most of the Arab countries the government has a substantial impact on both the overall quantity and the sectoral pattern of investment. This impact may be direct through investment by public agencies, or indirect through licensing (control) of capital goods imports or the allocation of loans to finance investment. The impact of governments on the decisions to use and import capital goods may be more decisive than the impact of private decisions.

The above considerations rule out the use of a neo-classical framework which attempts to explain investment in terms of profitability. Considerations of profitability based on the prices faced by the private sector may not be appropriate if government decisions and plans are based on other criteria, such as the social opportunity costs of inputs or the externalities generated by the development of capital goods industries. The above argument may suggest a planning model framework, to explain government decisions; but, as indicated in the introduction to this chapter, the detailed application of that approach is beyond the scope of this project. (The planning model approach is more applicable to the determination of the broad pattern of sectoral investments which is discussed in the next section.) Equally compelling factors in the decision not to follow either of the above approaches are the absence of the detailed time series data required to implement the neoclassical approach and the detailed structural data required to implement the planning approach.

The approach adopted makes use of the available time series data on capital goods imports and sectoral value-added. Here imports of capital goods (adjusted for domestic production and exports where appropriate) are related to changes in value-added in the appropriate capital-using sector or sectors. We interpret this procedure as the econometric estimation of incremental capital-output ratios where the capital goods are disaggregated in relatively great detail (the 80 available SITC categories) while the outputs are more highly aggregated (the 9 or 10 sectoral breakdown of GDP in the U.N. National Accounts Statistics). This interpretation is strictly valid only if the ratio of value-added to the value of output remains constant over time. This may not be the case if other inputs are withdrawn from the using sector. Agriculture is a case in point, since in several Arab countries imports of agricultural equipment have occured at the same time that labour has been shifted out of agriculture. Thus agricultural output has not increased since capital goods are being substituted for labour. In these circumstances we would not be able to estimate incremental capital-output ratios, which are based on the assumption of a fixed coefficient technology.

Some of the "engineering products" which are included in the study are clearly durable consumer goods, such as television sets (724.1) and passenger motor cars (732.1). Other categories, such as ships and boats (735) or sewing machinery (717.3) may include both capital goods and/or consumer goods. For these products, a consumer demand equation may be an appropriate basis for forecasts. Such an equation has been used for these products, using the current level of GDP (in current U.S. dollars) as a proxy for consumer income.

Even for products which are clearly capital goods, the use of the current level of GDP as the basis for forecasts may be justified. GDP can be interpreted as representing the ability of a country to import. (This measure may be crude but the lack of data precludes more sophisticated measures.) Under this interpretation the current level of GDP determines the level of imports of capital goods, which in turn determines the changes of sectoral GDP in the future. Thus imports of each product were also related to the current level of GDP in regression equations. Note that for the most prosperous Arab countries the current level of GDP may not limit investment and the import of capital goods because accumulated savings may be used to finance purchases of investment goods.

2.2.2 The Forecasting Equations

The forecasts of imports of each capital good were computed using an equation of one of the following forms:

$$(1) \quad M_{it} = a_0 + a_1(GDP_{j,t+1} - GDP_{j,t}) + a_2(GDP_{j,t+2} - GDP_{j,t+1})$$

where M_{it} is the value of imports of capital good i in period t and $GDP_{j,t}$ is the value-added in sector j in period t.

or

(2) $M_{it} \equiv a_0 + a_1 GDP_t$

where GDP_t is the current level of GDP.

Because some product categories are aggregates, such as construction and mining machinery (SITC 718.4), or include products which may be used in several sectors, such as pumps (SITC 719.2), the identification of the using sector cannot be based solely on a priori engineering judgement. For such products equations were estimated for each potential using sector. Not surprisingly, the dominant using sector for some products is different in different countries. [The identification of using sectors sheds some light on the direction of capital goods investment in the individual countries. For example, in Saudi Arabia the transport and communications sector appears to have received a substantial portion of the capital goods imports while in the other G.C.C. countries, manufacturing appears to have been the major recipient of capital goods imports.] For products for which more than one using sector appeared to be important, the short time series did not allow GDP changes for each using sector to be entered separately. For these products GDP changes in the using sectors were added together in order to form the explanatory variables.

The above equations were estimated using annual observations over the period 1967-1979. (The data period differs from country to country.) The estimation period could not be extended past 1979 as the GDP data must be available for two years after the end of the estimation period. The limited number of observations available made it impossible to introduce any longer lags between the import of capital goods and changes in output. Each additional lag uses up two degrees of freedom, one for the additional parameter introduced and one for the data point lost. Both imports and GDP are measured in current prices. While the import data could be converted to constant prices using a price index for capital goods from the supplying countries (over 95 percent of capital goods imports in the Arab countries are obtained from developed countries), no conversion of the sectoral GDP data to constant price values was possible for the Arab countries. Thus it was decided to use current price values for all variables in the forecasting equations. The import data was obtained from U.N. sources, while the GDP data was obtained from the U.N. Yearbook of National Accounts Statistics. There are several reasons why the relationships measured by the above equations might change over time, leading to errors in the forecasts. Firstly, the nature of technology may change so that the same sector uses a different mix of capital goods. Secondly, the mix of industries within a sector may change over time, having the same result. Finally the price of the capital good may change relative to the price of output of the using sector. These potential biases in the forecasts are difficult to evaluate because we have no historical data describing the relationships in question.

The forecasting equations are described in Tables 2.1 through 2.11. Coefficient estimates, R^2 values and Durbin-Watson statistics (D.W.) are presented and the using sector or sectors are identified. (The sectoral numbering scheme is described in Appendix Table 1.) These equations will be discussed in the following section.

Table 2.1 Forecasting Equations: Algeria

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Total Engineering products 7	-398.894 -316.135	0.181 3.258	--- 3.645	2.34 1.46	.82 .72	GDP(current level) GDP4
Total Machinery non-electric 71	-195.963 -141.493	0.0970 1.507	--- 2.085	2.20 1.36	.87 .75	GDP(current level) GDP4
Total Electrical machinery 72	-81.546 -66.199	0.0330 0.604	--- 0.654	2.33 1.41	.83 .73	GDP(current level) GDP4
Total Transport equipment 73	-168.432	0.0588	---	2.41	.83	GDP(current level)
Power generating machinery 711	-13.238 -12.198	0.00930 0.489	--- 2.164	1.70 1.91	.81 .94	GDP(current level) GDP5
Steam engines 711.1, 2, 3	0.664 2.983	0.00116 -0.0332	--- 0.253	1.85 1.77	.68 .53	GDP(current level) GDP5
Aircraft engines 711.4	1.327 1.240	0.0000875 0.-0475	--- 0.00345	1.15 1.93	.23 .42	GDP(current level) GDP8
Other internal combustion engines 711.5	-12.884 -9.813	0.00587 0.286	--- 1.288	1.59 1.27	.82 .84	GDP(current level) GDP5
Gas turbines 711.6	-8.289 2.388	0.144 -0.0406	0.623 0.106	1.65 2.14	.92 .84	GDP5 GDP8
Nuclear Reactors 711.7						
Agricultural machinery 712	-5.337	0.007	---	1.89	.93	GDP(current level)
Agricultural machinery for cultivating soil 712.1, 2	-5.562	0.00319	---	2.35	.83	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3	-1.014	0.000224	---	1.72	.63	GDP(current level)
Tractors 712.5	3.498	0.00295	---	2.29	.89	GDP(current level)
Office machinery 714	2.101	0.00104	---	2.28	.84	GDP(current level)
	2.347	0.0201	0.0194	2.01	.79	GDP10
Typewriters 714.1	-0.453	0.000395	---	2.85	.93	GDP(current level)
	-0.832	0.00481	0.00213	1.96	.81	GDP(7 + 8 + 9 + 10)
Calculating machinery 714.2	1.198	0.00645	0.00553	2.03	.76	GDP10
	1.143	0.00515	0.00329	1.94	.75	GDP(8 + 9 + 10)
Statistical machinery 714.3	0.803	0.000186	---	2.20	.52	GDP(current level)
	0.897	0.00377	0.00311	1.12	.44	GDP10
Metal-working machinery 715	-22.588	0.00827	---	2.63	.97	GDP(current level)
	-3.335	0.0395	0.172	1.14	.51	GDP4
Machine tools 715.1	-15.484	0.00502	---	2.55	.84	GDP(current level)
	-9.912	0.0805	0.0911	1.31	.59	GDP4
Textile and leather machinery 717	5.919	0.00234	---	2.13	.76	GDP(current level)
	3.325	0.00213	---	2.21	.79	GDP(current level)
Textile machinery 717.1	3.325	0.00213	---	2.21	.79	GDP(current level)
Sewing machinery 717.3	1.698	0.000104	---	2.03	.26	GDP(current level)
Special industrial machinery 713	-40.570	0.0193	---	2.01	.86	GDP(current level)
	-30.120	0.284	0.428	1.29	.75	GDP4
Paper and pulp machinery 718.1	-1.295	0.00968	0.0284	2.58	.49	GDP4

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Printing machinery 718.2	-0.688	0.000735	---	2.35	.95	GDP(current level)
Food processing machinery 718.3	-0.0297	0.000986	---	2.21	.72	GDP(current level)
	0.375	0.0112	0.0253	2.22	.69	GDP4
Construction, mining machinery 718.4	-22.265	0.114	---	1.91	.85	GDP(current level)
	-4.861	0.0354	0.212	0.72	.69	GDP6
Mineral processing machinery 718.51	-19.558	0.00552	---	2.48	.78	GDP(current level)
	-17.653	0.112	0.104	1.51	.70	GDP4
Glass working machinery 718.52	0.343	0.00000994	---	2.05	.03	GDP(current level)
	-0.00596	0.0029	-0.000129	2.41	.16	GDP4
Other special machinery 719	-153.530	0.0525	---	2.43	.80	GDP(current level)
	-166.510	6.857	9.904	1.58	.89	GDP5
Air-conditioning machinery 719.12	-3.839	0.00123	---	2.22	.65	GDP(current level)
	-3.282	0.00256	0.0122	1.68	.96	GDP(7 + 8 + 9 + 10)
Industrial furnaces, strokers, ovens 719.13, 14	-2.913	0.00138	---	2.87	.77	GDP(current level)
	-4.310	0.00838	0.0217	1.15	.93	GDP(4 + 10)
Refrigerating equipment 719.15	-0.606	0.000456	---	2.58	.92	GDP(current level)
	-0.0604	0.00587	0.00924	1.32	.65	GDP4
Other heating, cooling equipment 719.11, 19	-6.054	-.0742	0.0984	3.47	.81	GDP4
	-2.689	0.0273	0.0702	3.21	.74	GDP(4 + 8)
Pumps and centrifuges 719.2	-13.0432	0.00703	---	2.39	.86	GDP(current level)
	-11.624	0.750	1.325	2.06	.86	GDP5
Mechanical handling equipment 719.3	-73.017	0.019	---	1.97	.68	GDP(current level)
	-74.316	0.382	0.403	1.40	.70	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	0.197	0.000115	---	2.74	.90	GDP(current level)
Powered-tools, other 719.5	-5.281	0.0366	0.076	3.12	.49	GDP4
Packaging machinery 719.62	1.187	0.000701	---	2.91	.59	GDP(current level)
	1.961	0.0335	0.0164	1.64	.58	GDP8
Weighing machinery 719.63	-0.575	0.000346	---	3.50	.84	GDP(current level)
	0.985	-0.00397	0.00582	0.89	.72	GDP(7 + 9)
Spraying, vending, other machinery 719.61, 64, 65, 66	-0.676	0.00597	---	3.13	.76	GDP(current level)
	-0.651	0.00187	0.00515	1.68	.89	GDP(1 + 6 + 7 + 9)
Ball, roller bearings 719.7	-0.230	0.000386	---	2.56	.81	GDP(current level)
	-0.191	0.00835	0.00733	1.47	.78	GDP4
Appliances, parts and accessories, other 719.8, 9	-35.185	0.0137	---	2.27	.83	GDP(current level)
	-34.815	0.130	0.110	1.14	.88	GDP(4 + 6)
Electrical power machinery 722	-26.826	0.011	---	2.37	.83	GDP(current level)
	-29.097	1.407	2.069	1.40	.91	GDP5
Power transforming machinery 722.1	-13.976	0.00599	---	2.11	.73	GDP(current level)
	-18.238	0.757	1.258	1.47	.94	GDP5
Equipment for distributing electricity 723	-13.828	0.268	0.795	1.56	.93	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-13.179	0.232	0.746	1.59	.93	GDP5
Telecommunications apparatus 724	-32.007	0.010	---	2.21	.74	GDP(current level)
Television sets 724.1	-1.830	0.00107	---	1.72	.45	GDP(current level)
	-0.581	0.0785	0.00455	1.15	.63	GDP8
Radio sets 724.2	-1.604	0.000495	---	1.65	.77	GDP(current level)
Domestic electrical equipment 725	-4.424	0.00157	---	2.83	.88	GDP(current level)
Medical apparatus 726	-1.358	0.00053	---	2.78	.93	GDP(current level)
Electrical machinery, other 729	-11.037	0.00684	---	2.93	.92	GDP(current level)
Batteries and accumulators 729.1	-0.658	0.000793	---	2.24	.92	GDP(current level)
Electric lamps 729.2	0.410	0.000325	---	2.24	.43	GDP(current level)
Valves, tubes, etc. 729.3	0.733	0.0132	0.025	2.96	.57	GDP5
Automotive electrical equipment 729.4	-0.979	0.000895	---	1.99	.91	GDP(current level)
Measuring apparatus 729.5	-3.379	0.00176	---	2.22	.90	GDP(current level)
	-0.485	0.0041	0.0139	1.20	.85	GDP(4 + 7 + 8 + 9)

Products		Coefficient Estimates			D.W.	R^2	GDP Components (j)
		(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	{	-0.723	0.000267	---	2.57	.93	GDP(current level)
		-0.255	0.00289	0.00313	0.88	.68	GDP6
Electron and proton accelerators 729.7							
Electro-magnetic appliances 729.91	{	0.120	0.00000603	---	1.73	.18	GDP(current level)
		0.0961	-0.000012	0.000362	1.48	.65	GDP4
Electric furnaces 729.92	{	-3.598	0.00133	---	2.67	.84	GDP(current level)
		-3.560	0.00520	0.0196	1.13	.83	GDP(4 + 10)
Electric traffic control equipment 729.93	{	-0.414	0.000126	---	2.73	.54	GDP(current level)
		-0.181	0.0000678	0.0031	1.03	.73	GDP10
Electrical condensers 729.95	{	-0.127	0.0139	0.130	1.77	.89	GDP5
		-0.0877	0.000952	0.00101	1.48	.78	GDP(4 + 5 + 8)
Other electric equipment 729.94, 96, 98, 99	{	-0.99	0.000402	---	1.72	.84	GDP(current level)
		-0.458	0.00139	0.0040	1.09	.93	GDP(4 + 7 + 9)
Railway vehicles 731		-16.076	0.00466	---	2.80	.94	GDP(current level)
Steam locomotives 731.1							
Electric locomotives 731.2		-1.276	0.0246	0.00612	2.12	.55	GDP8
Locomotives, other 731.3		-0.0888	0.0411	-0.00461	2.40	.43	GDP8
Passengers: railway, tramway cars 731.4, 5		-7.837	0.00167	---	1.35	.93	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	-6.894	0.00151	---	1.05	.81	GDP(current level)
Road motor vehicles 732	-142.110	0.0457	---	2.13	.77	GDP(current level)
Passenger motor cars 732.1	-6.692	0.00463	---	1.68	.91	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-115.480	0.0293	---	2.14	.69	GDP(current level)
Motor cycles 732.9	0.718	0.0000816	---	1.59	.26	GDP(current level)
Road vehicles other than motor 733	-12.241	0.00352	---	2.50	.70	GDP(current level)
Cycles 733.1 {	0.369	0.0000904	---	2.46	.37	GDP(current level)
	0.668	-0.00177	0.00457	1.67	.64	GDP8
Aircraft 734	3.517	0.00201	---	2.82	.54	GDP(current level)
Ships and boats 735	1.198	0.00288	---	1.16	.44	GDP(current level)
Manufactures of Metal 69 {	-60.984	0.0274	---	1.73	.83	GDP(current level)
	-133.292	0.116	0.440	2.05	.85	GDP(4 + 6)

Table 2.2 Forecasting Equations: Egypt

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Total Engineering products 7	-457.726	.129	---	1.16	.93	GDP(current level)
Total Machinery non-electric 71	-223.0	.0593	---	1.64	.94	GDP(current level)
Total Electrical machinery 72	-148.0	.0294	---	1.13	.96	GDP(current level)
	8.141	.175	.314	.69	.43	GDP4
Total Transport equipment 73	121.1	.478	.499	1.77	.70	GDP8
Power generating machinery 711	-25.5	.00708	---	2.41	.87	GDP(current level)
	19.3	.506	.768	1.00	.41	GDP5
	14.8	.00586	.137	1.52	.87	GDP8
Steam engines 711.1, 2, 3	.237	.00959	---	1.92	.23	GDP(current level)
	.918	.250	.216	2.28	.73	GDP5
Aircraft engines 711.4	-10.8	.00176	---	1.10	.79	GDP(current level)
	-.513	.0113	.0262	.92	.67	GDP8
Other internal combustion engines 711.5	-14.3	.00412	---	1.58	.82	GDP(current level)
	9.97	.00725	.0733	1.32	.72	GDP8
Gas turbines 711.6	-1.13	.000253	---	2.13	.48	GDP(current level)
	.0333	.0235	.0442	2.41	.53	GDP5
Nuclear Reactors 711.7						
Agricultural machinery 712	-6.11	.00196	---	2.59	.43	GDP(current level)
	2.10	.0311	-.00792	1.61	.33	GDP1
Agricultural machinery for cultivating soil 712.1, 2	-.655	.000163	---	2.96	.36	GDP(current level)
	-.761	.00188	.00138	2.39	.41	GDP1

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment	.117	-.000000264	---	3.13	.41	GDP(current level)
712.3	.198	.000224	-.000349	3.21	.14	GDP1
Tractors	-10.76	.00200	---	2.73	.54	GDP(current level
712.5	-6.47	.0258	.00460	1.60	.43	GDP1
Office machinery	-4.32	.00114	---	2.06	.88	GDP(current level)
714	1.69	.00769	.0198	1.41	.99	GDP8
Typewriters	-1.05	.000197	---	1.84	.93	GDP(current level)
714.1	-.301	.000946	.00104	1.63	.84	GDP(7 + 8)
Calculating machinery	-.700	.000197	---	0.89	.71	GDP(current level)
714.2	.178	-.000278	.00172	1.10	.62	GDP(7 + 8)
Statistical machinery	-2.04	.000555	---	1.69	.46	GDP(current level)
714.3	-.948	.00155	.0100	1.66	.65	GDP10
Metal-working machinery 715	16.54	.00418	.0943	2.81	.76	GDP4
Machine tools 715.1	18.31	.00344	---	1.01	.84	GDP(current level)
Textile and leather machinery	-2.83	.0724	.123	.77	.53	GDP4
717	-53.78	.0106	---	1.94	.96	GDP(current level)
Textile machinery	-48.65	.00974	---	1.59	.95	GDP(current level)
717.1	-1.23	.0654	.113	.74	.52	GDP4
Sewing machinery 717.3	-1.84	.000344	---	3.13	.81	GDP(current level)
Special industrial machinery 718	-50.53	.0100	---	1.04	.86	GDP(current level)
Paper and pulp machinery 718.1	-3.19	.000598	---	1.58	.96	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	-6.21	.00108	---	1.18	.80	GDP(current level)
Food processing machinery 718.3	.0166	.000361	---	1.88	.78	GDP(current level)
Construction, mining machinery 718.4	-28.92	.00555	---	1.08	.78	GDP(current level)
	7.72	.0903	.0167	1.04	.88	GDP(2 + 3)
Mineral processing machinery 718.51	-12.74	.00228	---	1.18	.83	GDP(current level)
	2.298	.0359	.00758	.86	.91	GDP(2 + 3)
Glass working machinery 718.52	.503	-.00119	.00113	1.14	.42	GDP4
Other special machinery 719	-106.71	.0263	---	2.30	.95	GDP(current level)
	60.86	.327	.177	3.39	.99	GDP(2 + 3)
Air-conditioning machinery 719.12	-.886	.000224	---	2.38	.78	GDP(current level)
	.0529	.00148	.00146	2.49	.72	GDP(4 + 8)
Industrial furnaces, strokers, ovens 719.13, 14	-4.958	.000789	---	1.66	.76	GDP(current level)
Refrigerating equipment 719.15	-3.215	.000618	---	1.12	.84	GDP(current level)
	.511	.00718	.00658	1.36	.66	GDP8
Other heating, cooling equipment 719.11, 19	-11.76	.00200	---	2.48	.92	GDP(current level)
	-.505	.0184	.00287	1.14	.88	GDP8
Pumps and centrifuges 719.2	7.643	.113	.00631	1.09	.94	GDP(2 + 3)
Mechanical handling equipment 719.3	3.051	.189	-.0257	2.31	.81	GDP8

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Domestic appliances, non-electric 719.4	-.953	.000132	---	1.67	.70	GDP(current level)
Powered-tools, other 719.5	-5.473 .433	.000979 .00776	--- .0113	2.19 1.00	.85 .92	GDP(current level) GDP(2 + 3)
Packaging machinery 719.62	-8.352 -.551	.00131 .0214	--- .0107	1.34 1.22	.87 .75	GDP(current level) GDP8
Weighing machinery 719.63	-1.607 -.594	.000249 -.000229	--- .00223	1.60 1.66	.65 .64	GDP(current level) GDP(7 + 8)
Spraying, vending, other machinery 719.61, 64, 65, 66	-4.899	.000820	---	2.05	.80	GDP(current level)
Ball, roller bearings 719.7	-1.695	.000467	---	1.33	.87	GDP(current level)
Appliances, parts and accessories, other 719.8, 9	-55.275	.00925	---	1.19	.80	GDP(current level)
Electrical power machinery 722	-51.438	.00912	---	1.22	.95	GDP(current level)
Power transforming machinery 722.1	-32.143	.00555	---	1.41	.91	GDP(current level)
Equipment for distributing electricity 723	-9.925	.00250	---	1.99	.86	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-8.614	.00227	---	2.08	.86	GDP(current level)
Telecommunications apparatus 724	-36.713	.00866	---	2.10	.97	GDP(current level)
	11.883	.124	.0948	1.06	.95	GDP8
Television sets 724.1	-6.503	.00127	---	1.52	.85	GDP(current level)
	.859	.00759	.0197	1.05	.76	GDP8
Radio sets 724.2	-3.988	.000569	---	1.77	.72	GDP(current level)
Domestic electrical equipment 725	-6.011	.000859	---	1.49	.66	GDP(current level)
Medical apparatus 726	-2.239	.000441	---	1.27	.95	GDP(current level)
	-.655	.00368	.00416	1.04	.75	GDP10
Electrical machinery, other 729	-33.542	.00648	---	1.71	.93	GDP(current level)
	4.480	.0908	.064	1.74	.80	GDP8
Batteries and accumulators 729.1	-2.671	.000480	---	1.56	.84	GDP(current level)
	.202	.00741	.00402	1.52	.70	GDP8
Electric lamps 729.2	-1.634	.000285	---	1.31	.75	GDP(current level)
Valves, tubes, etc. 729.3	.341	.000123	---	2.76	.78	GDP(current level)
	1.012	.00301	.00065	2.86	.96	GDP8
Automotive electrical equipment 729.4	-3.323	.000564	---	1.02	.88	GDP(current level)
	-.0300	.00839	.00537	1.00	.78	GDP8
Measuring apparatus 729.5	-12.545	.00210	---	1.08	.93	GDP(current level)
	-4.267	.00600	.0136	1.35	.81	GDP(7 + 8)

Products		Coefficient Estimates			D.W.	R^2	GDP Components (j)
		(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	{	-.657 -.663	.0000983 .000791	--- .00114	1.89 1.13	.75 .83	GDP(current level) GDP(2 + 3)
Electron and proton accelerators 729.7							
Electro-magnetic appliances 729.91	{	-.134 -.0158	.0000211 .000942	--- -.000184	2.50 3.16	.48 .96	GDP(current level) GDP8
Electric furnaces 729.92	{	-4.903 .0756	.000816 .00996	--- .00811	1.35 1.53	.82 .62	GDP(current level) GDP8
Electric traffic control equipment 729.93	{	-2.836 -.463	.000401 .00692	--- .00304	1.47 1.25	.87 .77	GDP(current level) GDP8
Electrical condensers 729.95		-.449	.0000696	---	1.38	.64	GDP(current level)
Other electric equipment 729.94, 96, 98, 99		1.818	.0377	-.0112	3.44	.85	GDP8
Railway vehicles 731		-11.175	.00336	---	2.01	.67	GDP(current level)
Steam locomotives 731.1							
Electric locomotives 731.2							
Locomotives, other 731.3	{	-10.175 .153	.00167 -.0205	--- .0428	1.95 1.96	.52 .57	GDP(current level) GDP8
Passengers: railway, tramway cars 731.4, 5		4.52	.0572	-.0151	3.10	.74	GDP8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	-.00121	.00000893	---	2.49	.92	GDP(current level)
Road motor vehicles 732	-59.496	0214	---	1.73	.81	GDP(current level)
	59.035	.412	.123	1.49	.71	GDP8
Passenger motor cars 732.1	-29.269	.00620	---	2.35	.90	GDP(current level)
	4.992	.117	.0522	.87	.96	GDP8
Buses, lorries, trucks 732.2, 3, 4	3.380	.00736	---	1.96	.58	GDP(current level)
Motor cycles 732.9	-3.231	.000558	---	1.74	.62	GDP(current level)
Road vehicles other than motor 733	1.74	.0466	-.00429	2.45	.78	GDP8
Cycles 733.1	-1.315	.000189	---	1.77	.77	GDP(current level)
Aircraft 734	44.148	-.149	.247	2.83	.74	GDP8
Ships and boats 735	-73.615	.0103	---	1.07	.79	GDP(current level)
	-11.102	.120	.106	1.27	.60	GDP8
Manufactures of Metal 69	-672	.105	---	1.42	.80	GDP(current level)
	6.08	.206	-.013	1.90	.91	GDP(2 + 3)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	-2054	7.73	8.39	1.94	.73	GDP4
Total Machinery non-electric 71	-699	2.69	3.02	1.96	.72	GDP4
Total Electrical machinery 72	-490	1.87	1.98	1.96	.73	GDP4
Total Transport equipment 73	-308	.0573	---	1.40	.86	GDP(current level)
Power generating machinery 711	-7.85	1.58	1.76	2.56	.92	GDP5
Steam engines 711.1, 2, 3	-8.45	.322	.430	2.58	.86	GDP5
Aircraft engines 711.4	1.56	.000959	---	1.42	.83	GDP(current level)
Other internal combustion engines 711.5	-2.18	.549	.820	2.02	.94	GDP5
Gas turbines 711.6	-.314	.489	.267	2.54	.87	GDP5
Nuclear Reactors 711.7						
Agricultural machinery 712	-13.23	.00174	---	1.19	.76	GDP(current level)
Agricultural machinery for cultivating soil 712.1, 2	-1.55	.000171	---	1.34	.60	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3						
Tractors 712.5	-9.54	.00129	---	1.19	.77	GDP(current level)
Office machinery 714	-4.36	.00099	---	1.12	.90	GDP(current level)
Typewriters 714.1	-1.27	.00023	---	1.28	.87	GDP(current level)
Calculating machinery 714.2	.540	.00022	---	1.62	.98	GDP(current level)
Statistical machinery 714.3	-1.92	.00029	---	1.40	.82	GDP(current level)
Metal-working machinery 715	-24.3	.108	.058	1.91	.65	GDP4
Machine tools 715.1	-11.1	.0393	.0416	2.00	.66	GDP4
Textile and leather machinery 717	-4.46	.0173	.0198	2.14	.70	GDP4
Textile machinery 717.1	-2.05	.0097	.0087	2.39	.69	GDP4
Sewing machinery 717.3	-2.38	.0076	.0107	1.88	.66	GDP4
Special industrial machinery 718	-148	.608	.66	2.00	.74	GDP4
Paper and pulp machinery 718.1						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	-5.70	.0200	.0222	1.94	.76	GDP4
Food processing machinery 718.3	-2.88	.0103	.0158	1.87	.76	GDP4
Construction, mining machinery 718.4	-23.6	.00783	---	2.34	.93	GDP(current level)
Mineral processing machinery 718.51	-52.8	.185	.172	1.91	.69	GDP4
Glass working machinery 718.52						
Other special machinery 719	-358	1.31	1.57	1.94	.71	GDP4
Air-conditioning machinery 719.12	-41.0	.172	.193	2.13	.71	GDP4
Industrial furnaces, strokers, ovens 719.13, 14	-8.30	.0281	.0274	1.92	.64	GDP4
Refrigerating equipment 719.15	-32.0	.0529	.0778	1.66	.72	GDP4+GDP8
Other heating, cooling equipment 719.11, 19	-54.1	.156	.232	1.97	.63	GDP4
Pumps and centrifuges 719.2	-13.6	1.359	.917	2.77	.99	GDP5
Mechanical handling equipment 719.3	-98.3	.342	.332	1.94	.58	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	.0537	.0000446	---	1.98	.90	GDP(current level)
Powered-tools, other 719.5	-11.9	.0332	.0461	1.90	.67	GDP4
Packaging machinery 719.62	-4.38	.0111	.0197	1.98	.62	GDP4
Weighing machinery 719.63	-1.17	.00417	.00478	1.73	.71	GDP4
Spraying, vending, other machinery 719.61, 64, 65, 66	-4.66	.0070	.0290	2.25	.72	GDP4
Ball, roller bearings 719.7	-.400	.00446	.00352	2.07	.82	GDP4
Appliances, parts and accessories, other 719.8, 9	-12.4	.00444	---	1.36	.83	GDP(current level)
Electrical power machinery 722	-49.9	2.27	2.26	2.64	.92	GDP5
Power transforming machinery 722.1	-22.4	1.16	1.34	2.33	.86	GDP5
Equipment for distributing electricity 723	-27.8	1.16	1.12	2.75	.98	GDP5

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-27.5	1.13	1.07	2.82	.99	GDP5
Telecommunications apparatus 724	-56.2	.0113	---	1.11	.90	GDP(current level)
Television sets 724.1	-13.4	.00243	---	1.12	.90	GDP(current level)
Radio sets 724.2	-15.0	.00369	---	2.00	.92	GDP(current level)
Domestic electrical equipment 725	-11.7	.00266	---	1.29	.89	GDP(current level)
Medical apparatus 726	-3.84	-.0014	.0129	.91	.73	GDP10
Electrical machinery, other 729	-10.9 -42.4	.00354 .180	--- .210	1.38 1.95	.86 .73	GDP(current level) GDP4
Batteries and accumulators 729.1	-2.71 -8.76	.000707 .0356	--- .0414	1.18 1.98	.86 .72	GDP(current level) GDP4
Electric lamps 729.2	- .222 -1.76	.000181 .0088	--- .0108	1.52 2.01	.90 .76	GDP(current level) GDP4
Valves, tubes, etc. 729.3	.450 -.427	.0000462 .00537	--- .00437	1.43 1.71	.82 .77	GDP(current level) GDP8
Automotive electrical equipment 729.4	-.507	.000478	---	1.41	.92	GDP(current level)
Measuring apparatus 729.5	-2.72 -10.5	.000804 .0476	--- .0447	1.45 1.96	.81 .72	GDP(current level) GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	-1.25	.000188	---	1.40	.83	GDP(current level)
	-2.97	.0086	.0121	1.91	.74	GDP4
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-6.68	.0262	.0279	1.78	.74	GDP4
Electric traffic control equipment 729.93	-.0198	.000475	---	2.39	.66	GDP(current level)
	-.501	.00285	.00011	1.29	.65	GDP10
Electrical condensers 729.95						
Other electric equipment 729.94, 96, 98, 99	-5.89	.0134	.0348	1.81	.67	GDP4
Railway vehicles 731						
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3						
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6						
Road motor vehicles 732	-149	.0340	---	1.68	.88	GDP(current level)
Passenger motor cars 732.1	-45.3	.0133	---	1.16	.90	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-95.5	.0167	---	2.05	.88	GDP(current level)
Motor cycles 732.9	-.979	.000306	---	1.59	.92	GDP(current level)
Road vehicles other than motor 733	-7.86	.00123	---	1.73	.86	GDP(current level)
Cyles 733.1	.0437	.0000410	---	1.63	.70	GDP(current level)
Aircraft 734	-32.0	.00704	---	1.19	.73	GDP(current level)
Ships and boats 735	-117	.0149	---	1.21	.78	GDP(current level)
Manufacturers of metal 69	-58.901	3.121	3.261	2.04	0,97	GDP5

Table 2.4 Forecasting Equations: Iraq

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Total Engineering products	-528	.206	---	2.46	.92	GDP(current level)
7	-515	9.96	3.41	2.21	.90	GDP4
Total Machinery non-electric	-189	.0817	---	2.71	.90	GDP(current level)
71	-187	4.19	1.21	2.48	.88	GDP4
Total Electrical machinery	-73.9	.0293	---	1.60	.94	GDP(current level)
72	-68.2	1.118	.666	1.63	.92	GDP4
Total Transport equipment	-256	.0905	---	2.69	.92	GDP(current level)
73	-41.4	4.69	.05	1.84	.67	GDP8
Power generating machinery	-21.1	.00887	---	2.03	.92	GDP(current level)
711	-1.78	2.19	1.56	2.59	.91	GDP5
Steam engines	-.841	.000658	---	3.06	.64	GDP(current level)
711.1, 2, 3	.454	.160	.128	3.36	.69	GDP5
Aircraft engines	-.731	.000618	---	1.78	.93	GDP(current level)
711.4	1.15	.0406	-.0132	1.98	.86	GDP8
Other internal combustion	-9.41	.00420	---	1.76	.89	GDP(current level)
engines	-.125	.943	.792	2.14	.86	GDP5
711.5						
Gas turbines	-3.30	.888	.543	3.26	.80	GDP5
711.6						
Nuclear Reactors						
711.7						
Agricultural machinery	-12.6	.00599	---	2.99	.62	GDP(current level)
712	18.6	.132	-.027	1.27	.42	GDP1
Agricultural machinery for	-.651	.000971	---	2.91	.34	GDP(current level)
cultivating soil	2.86	.0338	---	2.18	.52	GDP1
712.1, 2						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3						
Tractors 712.5	-7.68	.00320	---	3.01	.51	GDP(current level)
	10.8	.0696	-.0323	1.58	.40	GDP1
Office machinery 714	-1.13	.000649	---	2.97	.97	GDP(current level)
	.0985	.0378	---	2.33	.88	GDP8
Typewriters 714.1	-.121	.0000482	---	2.06	.98	GDP(current level)
	.00670	.00275	-.00039	1.87	.72	GDP8
Calculating machinery 714.2	.261	.00733	.00376	2.84	.62	GDP8
Statistical machinery 714.3						
Metal-working machinery 715	-10.1	.186	.050	2.53	.84	GDP4
Machine tools 715.1	-6.15	.125	.022	2.60	.77	GDP4
Textile and leather machinery 717	-11.8	.259	.072	2.13	.86	GDP4
Textile machinery 717.1	-10.5	.233	.062	2.17	.87	GDP4
Sewing machinery 717.3	-1.05	.000446	---	1.56	.84	GDP(current level)
	-.934	.0166	.0102	1.59	.81	GDP4
Special industrial machinery 718	-47.8	1.27	.19	2.92	.89	GDP4
Paper and pulp machinery 718.1	-1.07	.000702	---	1.19	.57	GDP(current level)
	-.737	.0269	.0143	1.13	.51	GDP4

Products	Coefficient Estimates (a_0)	 (a_1)	 (a_2)	D.W.	R^2	GDP Components (j)
Printing machinery 718.2	-2.15	.0368	.0179	2.44	.87	GDP4
Food processing machinery 718.3	.356	.0641	.0101	1.63	.67	GDP4
Construction, mining machinery 718.4	{ -16.9 7.55	.0107 -.334	--- .709	2.71 3.41	.88 .98	GDP(current level) GDP6
Mineral processing machinery 718.51	-22.9	.386	.083	2.15	.79	GDP4
Glass working machinery 718.52	-.807	.0395	-.0092	3.36	.53	GDP4
Other special machinery 719	-81.6	1.55	.75	2.15	.89	GDP4
Air-conditioning machinery 719.12	-2.51	.0156	.0366	1.13	.79	GDP4
Industrial furnaces, strokers, ovens 719.13, 14	-4.24	.0457	.0379	1.59	.76	GDP4
Refrigerating equipment 719.15	-4.61	.0729	.0338	1.63	.93	GDP4
Other heating, cooling equipment 719.11, 19	-11.8	.073	.136	1.15	.84	GDP4
Pumps and centrifuges 719.2	-2.37	-.176	.436	2.24	.92	GDP6
Mechanical handling equipment 719.3	-17.1	.354	.062	2.46	.81	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	-.0738	.0000787	---	2.18	.71	GDP(current level)
Powered-tools, other 719.5	{ -1.75 -1.68	.000769 .0357	--- .0136	2.85 1.78	.99 .97	GDP(current level) GDP4
Packaging machinery 719.62	-2.72	.0346	.0261	1.80	.83	GDP4
Weighing machinery 719.63	-.585	.0130	.0019	2.65	.82	GDP4
Spraying, vending, other machinery 719.61, 64, 65, 66	-.0741	-.0054	.0297	1.30	.98	GDP6
Ball, roller bearings 719.7	-1.88	.0447	.0045	2.69	.82	GDP4
Appliances, parts and accessories, other 719.8, 9	{ -26.9 .429	.0101 .543	--- .033	1.29 1.88	.83 .98	GDP(current level) GDP6
Electrical power machinery 722	-5.27	2.25	2.08	2.17	.87	GDP5
Power transforming machinery 722.1	-3.51	1.16	1.43	2.17	.83	GDP5
Equipment for distributing electricity 723	-.883	.939	.754	2.89	.94	GDP5

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-.775	.898	.713	2.94	.94	GDP5
Telecommunications apparatus 724	-15.8	.00624	---	1.89	.93	GDP(current level)
Television sets 724.1	-1.45	.000725	---	1.79	.87	GDP(current level)
Radio sets 724.2	-.355	.000353	---	1.52	.81	GDP(current level)
Domestic electrical equipment 725	-5.08	.00216	---	2.32	.92	GDP(current level)
Medical apparatus 726	-.399	.000261	---	2.53	.92	GDP(current level)
Electrical machinery, other 729	-13.2	.00551	---	1.74	.96	GDP(current level)
	-12.3	.228	.114	1.73	.93	GDP4
Batteries and accumulators 729.1	-.704	.000490	---	.78	.86	GDP(current level)
	-.574	.0189	.0108	.90	.82	GDP4
Electric lamps 729.2	-.636	.000446	---	2.10	.50	GDP(current level)
	-.973	.0407	-.0101	2.41	.78	GDP4
Valves, tubes, etc. 729.3	-.497	.000235	---	1.98	.98	GDP(current level)
	-.476	.0109	.0042	1.89	.96	GDP4
Automotive electrical equipment 729.4	-1.87	.000873	---	2.71	.98	GDP(current level)
Measuring apparatus 729.5	-3.11	.00125	---	1.88	.90	GDP(current level)
	-2.97	.0524	.0261	1.84	.89	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	-.339 -.329	.000135 .00613	--- .00251	2.91 2.02	.95 .93	GDP(current level) GDP4
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-1.25	.0227	.0066	2.10	.88	GDP4
Electric traffic control equipment 729.93						
Electrical condensers 729.95						
Other electric equipment 729.94, 96, 98, 99	-.202 -.198	.000341 .0196	--- .0036	3.48 3.53	.64 .62	GDP(current level) GDP4
Railway vehicles 731	-4.40 1.42	.00204 .116	--- -.021	1.58 1.94	.85 .64	GDP(current level) GDP8
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3	-.722	.000421	---	1.55	.60	GDP(current level)
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	-3.50	.00131	---	1.75	.87	GDP(current level)
	.0363	.0769	-.0131	2.11	.69	GDP8
Road motor vehicles 732	-150	.0537	---	2.90	.77	GDP(current level)
Passenger motor cars 732.1	-13.3	.00556	---	2.56	.88	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-101	.0348	---	2.94	.74	GDP(current level)
	-37.6	1.38	.66	1.73	.52	GDP8
Motor cycles 732.9	-.605	.000282	---	1.12	.93	GDP(current level)
	.231	.0176	-.0049	1.92	.80	GDP8
Road vehicles other than motor 733	-9.41	.00336	---	2.44	.59	GDP(current level)
	-6.27	.107	.127	1.59	.55	GDP8
Cycles 733.1	-.0171	.0000642	---	.98	.67	GDP(current level)
	.234	.00403	-.00187	1.83	.55	GDP8
Aircraft 734	7.04	.904	-.451	2.76	.95	GDP8
Ships and boats 735	-60.2	.0181	---	1.64	.67	GDP(current level)
	4.97	1.27	-.59	2.29	.70	GDP8
Manufactures of Metal 69	-25400	12.7	---	2.13	.92	GDP(current level)
	8060	331	297	2.10	.99	GDP6

Table 2.5 Forecasting Equations: Jordan

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	21.5	.386	.366	1.42	.83	GDP
Total Machinery non-electric 71	{ 6.7 12.4	.159 .777	.128 .674	1.35 1.85	.79 .72	GDP GDP4
Total Electrical machinery 72	8.25	.0637	.0662	1.70	.77	GDP
Total Transport equipment 73	{ 6.425 1.55	.164 1.55	.172 1.80	1.82 1.72	.84 .82	GDP GDP8
Power generating machinery 711	2.06	.0295	.0254	1.75	.88	GDP
Steam engines 711.1, 2, 3	-.206	.0673	.0144	1.17	.60	GDP8
Aircraft engines 711.4	.874	.00237	.00302	2.20	.31	GDP
Other internal combustion engines 711.5	1.421	.0162	.0151	1.63	.83	GDP
Gas turbines 711.6						
Nuclear Reactors 711.7						
Agricultural machinery 712	.763	.0142	.0101	1.80	.78	GDP
Agricultural machinery for cultivating soil 712.1, 2	.187	.00080	.00122	2.29	.70	GDP

Products		Coefficient Estimates			D.W.	R^2	GDP Components (j)
		(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3							
Tractors 712.5		.460	.00792	.00684	1.16	.75	GDP
Office machinery 714	{	,254 .204	,00263 .00533	,00256 ,00388	2,14 2,36	,83 ,85	GDP GDP7+8+9+10
Typewriters 714.1	{	.0501 -.238	.000883 .0006	.000627 ---	2.02 1.73	.76 .77	GDP7+8+9+10 GDP(current level)
Calculating machinery 714.2		-.0177	.0396	.0048	2.74	.88	GDP9
Statistical machinery 714.3							
Metal-working machinery 715		.262	.0234	.0302	1.03	.89	GDP4
Machine tools 715.1		.190	.0226	.0199	1.52	.82	GDP4
Textile and leather machinery 717		.381	.0307	.0392	1.23	.82	GDP4
Textile machinery 717.1		.187	.0267	.0320	1.28	.85	GDP4
Sewing machinery 717.3		-.715	.00170	---	1.64	.94	GDP(current level)
Special industrial machinery 718		.298	.0409	.0259	1.54	.75	GDP
Paper and pulp machinery 718.1							

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	.131	.00129	.00151	1.44	.69	GDP
Food processing machinery 718.3	-.962	.0022	---	1.83	.57	GDP(current level)
Construction, mining machinery 718.4	-.0259	.0279	.0162	1.62	.75	GDP
Mineral processing machinery 718.51	.207	.0539	.0306	2.73	.64	GDP4
Glass working machinery 718.52						
Other special machinery 719	5.02	.310	.284	1.90	.73	GDP4
Air-conditioning machinery 719.12	-.0878	.00499	.00124	1.84	.77	GDP7+8+9+10
Industrial furnaces, strokers, ovens 719.13, 14	.0495	.00791	.00627	2.52	.80	GDP4
Refrigerating equipment 719.15	.0947	.0144	.0056	2.33	.90	GDP4+8
Other heating, cooling equipment 719.11, 19	.137	.0257	.0108	2.26	.66	GDP4+8
Pumps and centrifuges 719.2	.742	.00706	.00901	1.35	.71	GDP
Mechanical handling equipment 719.3	.665	.0582	.0408	1.37	.78	GDP4+8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4						
Powered-tools, other 719.5						
Packaging machinery 719.62	.0345	.0145	.0069	1.89	.84	GDP4+8
Weighing machinery 719.63						
Spraying, vending, other machinery 719.61, 64, 65, 66	.225	.00515	.00397	2.71	.92	GDP7
Ball, roller bearings 719.7	.108	.00825	.00752	2.45	.76	GDP4
Appliances, parts and accessories, other 719.8, 9	-11.0	.0250	---	1.38	.77	GDP(current level)
Electrical power machinery 722	1.210	.0192	.0140	1.74	.83	GDP
Power transforming machinery 722.1	.937	.0120	.0079	1.99	.81	GDP
Equipment for distributing electricity 723	.786	.00213	.00794	1.27	.67	GDP

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	.733	.00231	.00716	1.35	.66	GDP
Telecommunications apparatus 724	3.83	.238	.186	1.81	.68	GDP8
	-10.3	.0310	---	1.53	.72	GDP(current level)
Television sets 724.1	469	.007	.005		.72	GDP
	-3.723	.00874	---	1.79	.80	GDP(current level)
Radio sets 724.2	.225	.00412	.00261	1.18	.67	GDP
	-1.90	.00454	---	1.51	.59	GDP(current level)
Domestic electrical equipment 725	469	.00578	.00760	1.44	.83	GDP
	-4.13	.00977	---	1.98	.84	GDP(current level)
Medical apparatus 726	.110	---	.008	2.79	.52	GDP10
Electrical machinery, other 729	1.47	.0881	.0716	1.98	.77	GDP4
Batteries and accumulators 729.1	.153	.00047	.00655	1.44	.92	GDP$+8
Electric lamps 729.2						
Valves, tubes, etc. 729.3	.0967	.00319	.00661	1.35	.84	GDP8
Automotive electrical equipment 729.4	-1.04	.00279	---	3.01	.82	GDP(current level)
Measuring apparatus 729.5	.215	.0213	.0091	2.39	.78	GDP4+8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6						
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92						
Electric traffic control equipment 729.93						
Electrical condensers 729.95						
Other electric equipment 729.94, 96, 98, 99	.198	.00475	.00296	2.51	.50	GDP4
Railway vehicles 731	-3.62	.00728	---	1,49	.71	GDP(current level)
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3						
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6						
Road motor vehicles 732	1.48	1.75	.32	1.14	.80	GDP8
Passenger motor cars 732.1	-12.0	.0292	---	1.72	.90	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-1.950	.861	.402	0.88	.77	GDP8
Motor cycles 732.9	.115	.000861	.000105	1.53	.83	GDP
Road vehicles other than motor 733	-.376	.113	.066	.94	.80	GDP8
Cyles 733.1						
Aircraft 734	1.54	-.032	.792	3.15	.57	GDP8
Ships and boats 735	-.0423	.0256	.0078	1.95	.68	GDP8

Table 2.6 Forecasting Equations: Libya

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Total Engineering products 7	-182.2	.126	---	2.64	.96	GDP(current level)
Total Machinery non-electric 71	-34.3	.440	---	2.83	.91	GDP(current level)
Total Electrical machinery 72	-35.4	.0282	---	1.47	.97	GDP(current level)
Total Transport equipment 73	-99.8	.0504	---	2.09	.95	GDP(current level)
Power generating machinery 711	-.737	3.32	1.75	2.17	.87	GDP5
Steam engines 711.1, 2, 3	-7.39	1.10	1.10	1.11	.86	GDP5
Aircraft engines 711.4	-2.78	.117	---	1.60	.85	GDP(current level)
Other internal combustion engines 711.5	{ -3.61 .117	.00278 1.84	--- -.730	1.73 2.42	.86 .81	GDP(current level) GDP5
Gas turbines 711.6	7.42	-.389	.649	2.52	.41	GDP5
Nuclear Reactors 711.7						
Agricultural machinery 712	-7.38	.00477	---	2.63	.84	GDP(current level)
Agricultural machinery for cultivating soil 712.1, 2	-2.26	.00119	---	2.38	.64	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3	-.0791	.00006	---	2.48	.66	GDP(current level)
Tractors 712.5	-3.93	.00303	---	2.56	.86	GDP(current level)
Office machinery 714	-.775	.00069	---	1.66	.91	GDP(current level)
Typewriters 714.1	-.475	.00019	---	1.40	.81	GDP(current level)
Calculating machinery 714.2	.278	.0002	---	2.49	.83	GDP(current level)
Statistical machinery 714.3	-.234	.000125	---	1.54	.78	GDP(current level)
Metal-working machinery 715	-.912	.00069	---	1.16	.94	GDP(current level)
Machine tools 715.1	-1.08	.000657	---	1.34	.95	GDP(current level)
Textile and leather machinery 717	1.11 .600	.00163 .0856	-.000022 -.0121	1.89 2.33	.73 .66	GDP GDP4
Textile machinery 717.1	.434	.00159	-.000167	1.98	.81	GDP
Sewing machinery 717.3	-.0585	.000107	---	2.03	.74	GDP(current level)
Special industrial machinery 718	-6.83	.00811	---	2.45	.86	GDP(current level)
Paper and pulp machinery 718.1	.0924	.0111	-.00223	2.43	.63	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	.413	.000119	---	1.49	.47	GDP(current level)
Food processing machinery 718.3	-.420 -.238	.00051 .0416	--- .0359	3.18 1.85	.43 .38	GDP(current level) GDP4
Construction, mining machinery 718.4	-6.27	.00574	---	2.29	.91	GDP(current level)
Mineral processing machinery 718.51	-.496 -.748	.00166 .163	--- .109	1.85 0.93	.68 .72	GDP(current level) GDP4
Glass working machinery 718.52						
Other special machinery 719	-16.9 -8.94	.0224 11.9	--- 4.27	2.69 2.06	.91 .89	GDP(current level) GDP5
Air-conditioning machinery 719.12	-.489	.000474	---	2.97	.78	GDP(current level)
Industrial furnaces, strokers, ovens 719.13, 14	-.0527	.000184	---	3.26	.87	GDP(current level)
Refrigerating equipment 719.15	-.0579	.000422	---	2.79	.82	GDP(current level)
Other heating, cooling equipment 719.11, 19	-.0548	.00167	---	1.01	.82	GDP(current level)
Pumps and centrifuges 719.2	11.7	1.86	.723	2.48	.84	GDP5
Mechanical handling equipment 719.3	-1.86	.00278	---	1.48	.92	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	-.0355	.00007	---	1.40	.86	GDP(current level)
Powered-tools, other 719.5	-.881	.000764	---	1.89	.63	GDP(current level)
Packaging machinery 719.62	.0428 .198	.000262 .0323	--- .0065	3.18 1.50	.71 .70	GDP(current level) GDP4
Weighing machinery 719.63	.0315	.000082	---	2.66	.86	GDP(current level)
Spraying, vending, other machinery 719.61, 64, 65, 66	-1.80	.000716	---	1.14	.92	GDP(current level)
Ball, roller bearings 719.7	.0516 .125	.000078 .00984	--- .00111	3.04 1.19	.87 .81	GDP(current level) GDP4
Appliances, parts and accessories, other 719.8, 9	-12.1	.00776	---	2.15	.89	GDP(current level)
Electrical power machinery 722	-10.96 -7.33	.00875 4.71	--- 1.55	2.35 1.74	.95 .93	GDP(current level) GDP5
Power transforming machinery 722.1	-5.62 -3.81	.00515 2.74	--- .968	2.19 1.61	.93 .91	GDP(current level) GDP5
Equipment for distributing electricity 723	-5.09 -7.21	.00382 1.59	--- 1.47	1.85 1.52	.83 .93	GDP(current level) GDP5

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-4.48 -6.69	.00355 1.44	--- 1.43	1.8 1.57	.82 .93	GDP(current level) GDP5
Telecommunications apparatus 724	-4.05	.00684	---	3.07	.82	GDP(current level)
Television sets 724.1	.0535	.00106	---	2.51	.83	GDP(current level)
Radio sets 724.2	.602	.00125	---	2.07	.57	GDP(current level)
Domestic electrical equipment 725	-1.23	.00139	---	2.54	.91	GDP(current level)
Medical apparatus 726	-.369	.00024	---	2.79	.72	GDP(current level)
Electrical machinery, other 729	-8.12	.00501	---	1.64	.99	GDP(current level)
Batteries and accumulators 729.1	.293	.000462	---	1.36	.86	GDP(current level)
Electric lamps 729.2	-.0782	.000171	---	2.35	.71	GDP(current level)
Valves, tubes, etc. 729.3	-.227 -.146	.000122 .0728	--- .0122	2.62 2.49	.81 .80	GDP(current level) GDP5
Automotive electrical equipment 729.4	-1.39	.000812	---	3.01	.97	GDP(current level)
Measuring apparatus 729.5	.0222	.00115	---	2.06	.93	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	-.221	.000128	---	1.76	.75	GDP(current level)
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-.517	.000324	---	2.54	.47	GDP(current level)
Electric traffic control equipment 729.93	-.567	.000163	---	1.46	.69	GDP(current level)
Electrical condensers 729.95	-.035 -.0130	.000015 .000696	--- -.000176	1.96 2.55	.83 .80	GDP(current level) GDP(4 + 5 + 8)
Other electric equipment 729.94, 96, 98, 99	-.215	.00026	---	1.97	.64	GDP(current level)
Railway vehicles 731	-.475	.000059	.00009	1.14	.71	GDP
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3						
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	.0129	.000653	.000777	2.67	.26	GDP7
Road motor vehicles 732	-43.9	.0301	---	2.7	.95	GDP(current level)
Passenger motor cars 732.1	-8.65	.00781	---	2.29	.96	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-30.2	.0174	---	2.64	.83	GDP(current level)
Motor cycles 732.9	.144	.00013	.000041	1.20	.73	GDP
Road vehicles other than motor 733	-2.80	.00211	---	2.47	.87	GDP(current level)
Cycles 733.1	.630	.000093	---	2.10	.84	GDP(current level)
Aircraft 734	-11.1	.00664	---	1.66	.64	GDP(current level)
Ships and boats 735	{ -28.2 21.8	.00799 .283	--- -.292	1.45 2.07	.80 .77	GDP(current level) GDP8
Manufactures of Metal 69	{ -44567.9 -52351.3	17.2 9621.9	--- 3686.3	3.12 2.51	.91 .91	GDP(current level) GDP5

Table 2.7 Forecasting Equations: Morocco

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	-215.3	.0940	---	1.49	.83	GDP(current level)
Total Machinery non-electric 71	-69.7	.0346	---	1.96	.70	GDP(current level)
Total Electrical machinery 72	-19.5	.0146	---	1.68	.84	GDP(current level)
Total Transport equipment 73	-99.3	.0382	---	1.61	.82	GDP(current level)
Power generating machinery 711	-16.3	.00559	---	1.33	.87	GDP(current level)
Steam engines 711.1, 2, 3	-7.66	.00195	---	2.46	.87	GDP(current level)
Aircraft engines 711.4	-.822	.000388	---	2.49	.98	GDP(current level)
Other internal combustion engines 711.5	9.85 -4.75	-.581 .00253	.418 ---	1.88 1.37	.81 .76	GDP5 GDP(current level)
Gas turbines 711.6	-3.26	.000704	---	2.04	.84	GDP(current level)
Nuclear Reactors 711.7						
Agricultural machinery 712	-14.1	.00459	---	1.15	.94	GDP(current level)
Agricultural machinery for cultivating soil 712.1, 2	-.491	.000685	---	1.86	.83	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3						
Tractors 712.5	-13.1	.00369	---	1.14	.95	GDP(current level)
Office machinery 714	-1.79 -1.93	.00119 .0138	--- .0115	3.27 1.68	.91 .84	GDP(current level) GDP10
Typewriters 714.1	-.405	.000208	---	2.82	.81	GDP(current level)
Calculating machinery 714.2	.247	.000158	---	1.56	.95	GDP(current level)
Statistical machinery 714.3	-1.06 -.957	.00431 .00556	.00455 .00517	2.26 2.27	.74 .71	GDP(8 + 9 + 10) GDP10
Metal-working machinery 715	-3.39	.00117	---	1.56	.66	GDP(current level)
Machine tools 715.1	-3.28	.00108	---	1.59	.65	GDP(current level)
Textile and leather machinery 717	-7.44	.00440	---	2.12	.81	GDP(current level)
Textile machinery 717.1	-6.80	.00398	---	2.06	.79	GDP(current level)
Sewing machinery 717.3	-.660	.000325	---	2.13	.91	GDP(current level)
Special industrial machinery 718	-9.40	.00564	---	1.29	.51	GDP(current level)
Paper and pulp machinery 718.1	.953	.000130	---	2.76	.40	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	-.488	.000341	---	1.15	.73	GDP(current level)
Food processing machinery 718.3	6.97	-.00527	.00250	1.76	.58	GDP
Construction, mining machinery 718.4	11.9	-.0141	.00800	2.19	.60	GDP(2 + 3)
Mineral processing machinery 718.51	-5.31	.00185	---	2.13	.56	GDP(current level)
Glass working machinery 718.52						
Other special machinery 719	-36.3	.0166	---	1.68	.87	GDP(current level)
Air-conditioning machinery 719.12	.0858 .0821	-.000635 -.000482	.00197 .00147	1.98 1.95	.79 .76	GDP(8 + 9 + 10) GDP(7 + 8 + 9 + 10)
Industrial furnaces, strokers, ovens 719.13, 14	-1.96 -2.78	.00350 .00279	.00903 .00698	2.15 1.38	.99 .99	GDP10 GDP(4 + 10)
Refrigerating equipment 719.15	-.592	.000364	---	1.34	.76	GDP(current level)
Other heating, cooling equipment 719.11, 19	1.20	.00358	.0787	1.35	.42	GDP8
Pumps and centrifuges 719.2	-5.67 11.09	.0213 -.750	.0337 .462	1.98 1.59	.79 .77	GDP10 GDP5
Mechanical handling equipment 719.3	-8.50	.00329	---	1.50	.92	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	-.0564	.000073	---	2.94	.97	GDP(current level)
Powered-tools, other 719.5	-2.62	.000953	---	1.50	.83	GDP(current level)
Packaging machinery 719.62	-1.20	.000642	---	2.61	.73	GDP(current level)
Weighing machinery 719.63	-1.30	.000127	---	2.50	.73	GDP(current level)
Spraying, vending, other machinery 719.61, 64, 65, 66	.107	.000195	---	2.90	.96	GDP(current level)
Ball, roller bearings 719.7	-.493	.000342	---	2.13	.81	GDP(current level)
Appliances, parts and accessories, other 719.8, 9	-13.9	.00575	---	1.38	.92	GDP(current level)
Electrical power machinery 722	9.57	.00203	---	1.82	.44	GDP(current level)
	21.1	-.456	.349	2.83	.49	GDP5
Power transforming machinery 722.1						
Equipment for distributing electricity 723	-1.56	.00119	---	3.24	.32	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-.934	.000974	---	3.21	.25	GDP(current level)
Telecommunications apparatus 724	-18.4	.00666	---	2.14	.76	GDP(current level)
Television sets 724.1	3.69	-.00124	-.000619	1.98	.78	GDP
Radio sets 724.2	.619	.000575	---	2.88	.83	GDP(current level)
Domestic electrical equipment 725	-.651	.000482	---	2.11	.80	GDP(current level)
Medical apparatus 726	-.458	.000209	---	2.37	.86	GDP(current level)
Electrical machinery, other 729	-7.92	.00352	---	1.39	.89	GDP(current level)
Batteries and accumulators 729.1	-.893	.0004	---	1.53	.80	GDP(current level)
Electric lamps 729.2	-.418	.000305	---	1.51	.95	GDP(current level)
Valves, tubes, etc. 729.3	-.724	.000317	---	2.44	.94	GDP(current level)
Automotive electrical equipment 729.4	.162	.000374	---	2.01	.97	GDP(current level)
Measuring apparatus 729.5	-.932	.000619	---	1.12	.89	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	.364	-.000309	-.000163	1.85	.66	GDP(2 + 3)
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91	-.124	.000336	.000459	1.90	.51	GDP10
Electric furnaces 729.92	.214	.000326	.00138	2.22	.62	GDP10
Electric traffic control equipment 729.93	-.380 -.232	.00445 .00347	-.00067 -.000684	1.57 1.62	.65 .61	GDP10 GDP(8 + 10)
Electrical condensers 729.95	-.0167	.0000415	---	3.00	.64	GDP(current level)
Other electric equipment 729.94, 96, 98, 99	.00432	.000099	---	1.61	.80	GDP(current level)
Railway vehicles 731	-10.1	.00292	---	2.34	.80	GDP(current level)
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3	8.91	-.0124	-.0353	1.60	.72	GDP7
Passengers: railway, tramway cars 731.4, 5	-3.40	.000739	---	1.86	.59	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	-4.05	.000963	---	1.56	.81	GDP(current level)
Road motor vehicles 732	{ -41.6 -25.8	.0218 .134	--- .240	1.93 1.91	.79 .78	GDP(current level GDP10
Passenger motor cars 732.1	-3.77	.00624	---	1.67	.90	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-33.6	.0107	---	1.84	.69	GDP(current level
Motor cycles 732.9	-2.68	.00159	---	2.52	.90	GDP(current level)
Road vehicles other than motor 733	-1.11	.000579	---	1.56	.55	GDP(current level)
Cycles 733.1	.375	.000095	---	2.20	.51	GDP(current level)
Aircraft 734	-12.7	.00451	---	1.63	.59	GDP(current level)
Ships and boats 735	-21.8	.00573	---	2.38	.85	GDP(current level)
Manufactures of Metal 69	{ -4570.2 33957.3	5.70 -1856.4	--- 655.2	1.03 2.13	.91 .81	GDP(current level) GDP5

Table 2.8 Forecasting Equations: Saudi Arabia

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	-674	.112	---	1.34	.90	GDP(current level)
Total Machinery non-electric 71	-189	.0385	---	1.35	.91	GDP(current level)
Total Electrical machinery 72	-210	.0282	---	1.03	.86	GDP(current level)
Total Transport equipment 73	-116	1.45	1.14	2.69	.95	GDP8
Power generating machinery 711	29.8	.203	.084	1.93	.89	GDP8
Steam engines 711.1, 2, 3	3.27	.0835	.0411	2.26	.92	GDP8
Aircraft engines 711.4	1.52	.0166	.0332	2.80	.86	GDP8
Other internal combustion engines 711.5	3.27	.0835	.0411	2.26	.92	GDP8
Gas turbines 711.6	13.7 24.2	.00123 .0518	--- .0094	2.12 1.73	.79 .67	GDP(current level) GDP8
Nuclear Reactors 711.7						
Agricultural machinery 712	14.1	.103	.169	1.70	.73	GDP1
Agricultural machinery for cultivating soil 712.1, 2	.967	.00601	.00799	1.49	.60	GDP1

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3						
Tractors 712.5	12.7	.070	.149	1.73	.72	GDP1
Office machinery 714	-3.04 .443	.000304 .0223	--- .0117	1.15 1.93	.92 .89	GDP(current level) GDP8
Typewriters 714.1	-0.730 -1.40	.0141 .00134	--- .00119	1.94 1.33	.93 .89	GDP(current level) GDP(8 + 9 + 10)
Calculating machinery 714.2	.186 -.590	.000117 .000820	--- .000903	2.65 2.27	.97 .99	GDP(current level) GDP(7 + 8 + 9 + 10)
Statistical machinery 714.3	-1.50 -1.38	.000201 .00319	--- -.00040	1.36 1.18	.82 .83	GDP(current level) GDP(7 + 8 + 9 + 10)
Metal-working machinery 715	-6.88	.000810	---	1.14	.82	GDP(current level)
Machine tools 715.1	-6.71	.000749	---	1.11	.80	GDP(current level)
Textile and leather machinery 717	-.824	.000226	---	1.29	.95	GDP(current level)
Textile machinery 717.1	-.541	.000124	---	1.96	.88	GDP(current level)
Sewing machinery 717.3	-.279	.0000985	---	1.98	.93	GDP(current level)
Special industrial machinery 718	-40.9	.00878	---	2.09	.92	GDP(current level)
Paper and pulp machinery 718.1	1.37	.00000893	---	2.14	.81	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	-.970	.000169	---	1.17	.90	GDP(current level)
Food processing machinery 718.3	-1.40	.0347	.0213	1.68	.99	GDP1
Construction, mining machinery 718.4	{ -17.2 35.2	.00580 .138	--- -.050	2.34 2.59	.92 .96	GDP(current level) GDP6
Mineral processing machinery 718.51	-19.0	.00242	---	1.80	.88	GDP(current level)
Glass working machinery 718.52						
Other special machinery 719	-772	0.5	17.2	2.00	.999	GDP1
Air-conditioning machinery 719.12	-3.50	.0702	.0260	2.12	.91	GDP8
Industrial furnaces, strokers, ovens 719.13, 14	{ -.609 -1.65	.000179 .00395	--- .00028	3.15 2.28	.67 .59	GDP(current level) GDP(4 + 10)
Refrigerating equipment 719.15	-2.06	.0487	.0152	2.19	.90	GDP8
Other heating, cooling equipment 719.11, 19	-5.75	.129	.027	2.24	.91	GDP8
Pumps and centrifuges 719.2	36.3	.0910	-.0514	2.29	.98	GDP(1 + 4 + 6)
Mechanical handling equipment 719.3	-28.2	.220	.092	2.92	.92	GDP8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	-.0223	.0000525	---	3.47	.86	GDP(current level)
Powered-tools, other 719.5	4.92	.0159	-.0097	2.15	.89	GDP6
Packaging machinery 719.62	-.917	.00499	---	1.80	.89	GDP(7 + 8)
Weighing machinery 719.63	-.421	.00131	.00048	2.61	.89	GDP(7 + 8)
Spraying, vending, other machinery 719.61, 64, 65, 66	2.27	.00619	-.00347	2.42	.96	GDP(1 + 6 + 7)
Ball, roller bearings 719.7	.409 .599	.0000473 .00117	--- .00142	2.93 2.22	.94 .92	GDP(current level) GDP8
Appliances, parts and accessories, other 719.8, 9	-25.4	.00484	---	1.26	.86	GDP(current level)
Electrical power machinery 722	-108	.0120	---	1.05	.82	GDP(current level)
Power transforming machinery 722.1	-78.8	.00852	---	1.06	.82	GDP(current level)
Equipment for distributing electricity 723	-32.0	.00407	---	1.11	.82	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-29.4	.00363	---	1.13	.81	GDP(current level)
Telecommunications apparatus 724	-48.5	.00725	---	1.10	.87	GDP(current level)
	-6.94	.289	.109	2.15	.87	GDP8
Television sets 724.1	-12.3	.00128	---	1.09	.76	GDP(current level)
	-4.23	.0613	.0099	2.22	.82	GDP8
Radio sets 724.2	-6.48	.00180	---	2.51	.97	GDP(current level)
Domestic electrical equipment 725	-7.68	.00166	---	1.40	.92	GDP(current level)
Medical apparatus 726	-3.40	.000169	---	2.57	.76	GDP(current level)
	-1.38	.00106	.00357	1.63	.65	GDP10
Electrical machinery, other 729	-13.2	.00281	---	1.05	.92	GDP(current level)
	.310	.102	.055	2.09	.93	GDP8
Batteries and accumulators 729.1	.629	.000346	---	2.32	.96	GDP(current level)
	2.05	.00920	.00986	1.43	.94	GDP8
Electric lamps 729.2	-.354	.000120	---	1.00	.87	GDP(current level)
Valves, tubes, etc. 729.3	.349	.00086	.00103	2.35	.94	GDP8
Automotive electrical equipment 729.4	.679	.000342	---	2.61	.95	GDP(current level)
	1.84	.0065	.0122	1.64	.95	GDP8
Measuring apparatus 729.5	-5.06	.0318	-.0013	2.03	.93	GDP(7 + 8)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	-.344	.00597	.00111	2.19	.85	GDP8
	1.64	.00366	-.00279	2.62	.91	GDP(4 + 6 + 8)
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-.69	.000238		1.34	.95	GDP(current level)
	.380	.00784	.00546	1.70	.95	GDP8
Electric traffic control equipment 729.93	-.0905	.00124	-.00033	1.30	.94	GDP(8 + 10)
Electrical condensers 729.95	-.121	.000943	.000496	2.25	.91	GDP8
Other electric equipment 729.94, 96, 98, 99	-14.5	.0065	.0188	1.98	.76	GDP(4 + 8)
Railway vehicles 731	-2.06	.000305		2.44	.72	GDP(current level)
	-.734	.00855	.00822	2.75	.71	GDP8
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3						
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates (a_0)	(a_1)	(a_2)	D.W.	R^2	GDP Components (j)
Freight: railway, tramway cars 731.6						
Road motor vehicles	-197	.0328	---	1.99	.91	GDP(current level)
732	-81.8	1.01	.87	2.57	.96	GDP8
Passenger motor cars	-57.6	.00940	---	2.14	.91	GDP(current level)
732.1	-20.4	.268	.257	2.45	.92	GDP8
Buses, lorries, trucks	-129	.0203	---	2.12	.87	GDP(current level)
732.2, 3, 4	-68.7	.629	.559	2.84	.96	GDP8
Motor cycles	.159	.000194	---	1.41	.91	GDP(current level)
732.9	1.37	.00696	.00330	2.01	.83	GDP8
Road vehicles other than motor	-18.8	.00193	---	2.01	.71	GDP(current level)
733	-12.2	.0783	.0372	3.09	.83	GDP8
Cycles	-.297	.0000654	---	1.08	.85	GDP(current level)
733.1	.0641	.00281	.00086	2.18	.89	GDP8
Aircraft	-11.6	.00580	---	1.81	.92	GDP(current level)
734	8.24	.178	.155	1.17	.99	GDP8
Ships and boats	-45.3	.00417	---	1.70	.75	GDP(current level)
735	-28.9	.172	.073	2.89	.85	GDP8
Manufactures of Metal	-158	5.62	---	1.52	.69	GDP(current level)
69	92200	125	-84	2.06	.69	GDP(6 + 8)

Table 2.9 Forecasting Equations: Sudan

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	-83.957	.0732	---	1.32	.84	GDP(current level)
Total Machinery non-electric 71	-41.951	.0329	---	1.43	.84	GDP(current level)
	-.593	.0558	.0251	1.19	.76	GDP
Total Electrical machinery 72	-3.707	.00604	---	1.50	.77	GDP(current level)
	4.105	.0115	.00328	1.24	.69	GDP
Total Transport equipment 73	-38.825	.0339	---	1.34	.83	GDP(current level)
	5.273	.0558	.0253	1.08	.70	GDP
Power generating machinery 711	-1.713	.00287	---	2.34	.95	GDP(current level
	3.704	.377	.0398	2.32	.83	GDP5
Steam engines 711.1, 2, 3	-.143	.000166	---	1.99	.76	GDP(current level)
	.137	.0198	.00861	2.00	.86	GDP5
Aircraft engines 711.4	-.574	.000441	---	1.08	.69	GDP(current level)
Other internal combustion engines 711.5	-1.427	.00230	---	2.24	.98	GDP(current level)
	2.878	.275	.0599	2.13	.83	GDP5
Gas turbines 711.6						
Nuclear Reactors 711.7						
Agricultural machinery 712	-8.968	.00635	---	1.64	.67	GDP(current level)
	-2.235	.0274	.0193	1.33	.74	GDP1
Agricultural machinery for cultivating soil 712.1, 2	-3.524	.00249	---	1.68	.61	GDP(current level)
	-1.245	.00111	.00861	1.46	.80	GDP1

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3						
Tractors 712.5	-5.327	.00371	---	1.62	.69	GDP(current level)
	-1.027	.0157	.0101	1.30	.68	GDP1
Office machinery 714	-.195	.000291	---	2.81	.64	GDP(current level)
	.326	.00312	-.000368	2.77	.72	GDP7
Typewriters 714.1						
Calculating machinery 714.2	-.0743	.000121	---	2.19	.57	GDP(current level)
	.132	.00125	-.0000412	2.32	.69	GDP7
Statistical machinery 714.3						
Metal-working machinery 715	-.316	.000473	---	2.18	.53	GDP(current level)
	.328	.0166	-.00195	2.40	.55	GDP4
Machine tools 715.1	-.280	.000403	---	2.24	.64	GDP(current level)
	.307	.0119	-.000395	2.24	.51	GDP4
Textile and leather machinery 717	-12.100	.00727	---	1.53	.86	GDP(current level)
Textile machinery 717.1	-11.970	.00676	---	1.63	.79	GDP(current level)
Sewing machinery 717.3	.193	-.00130	.00556	1.89	.63	GDP4
Special industrial machinery 718	-11.375	.00751	---	1.31	.74	GDP(current level)
Paper and pulp machinery 718.1	-.107	.000177	---	1.82	.49	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	.0712	.000242	---	2.68	.67	GDP(current level)
	.239	.00372	.00632	2.15	.75	GDP4
Food processing machinery 718.3	-7.363	.00380	---	1.57	.56	GDP(current level)
	-3.507	.0168	.0119	1.54	.66	GDP1
Construction, mining machinery 718.4	-2.628	.00244	---	1.68	.66	GDP(current level)
	3.881	-.494	-.428	.91	.54	GDP(2 + 3)
Mineral processing machinery 718.51	-1.385	.000803	---	1.08	.77	GDP(current level)
	.750	-.229	-.094	1.10	.88	GDP(2 + 3)
Glass working machinery 718.52						
Other special machinery 719	-7.189	.00808	---	1.32	.92	GDP(current level)
	2.686	.0191	.0212	1.40	.82	GDP(1 + 8)
Air-conditioning machinery 719.12	-.326	.000225	---	1.98	.76	GDP(current level)
	.0340	.00139	-.00039	2.20	.78	GDP(7 + 8 + 9 + 10)
Industrial furnaces, strokers, ovens 719.13, 14	.0564	.00238	-.00102	2.13	.71	GDP4
Refrigerating equipment 719.15	-.369	.000497	---	2.56	.79	GDP(current level)
	.419	.00363	.00153	2.02	.61	GDP(4 + 8)
Other heating, cooling equipment 719.11, 19	-.815	.000611	---	1.32	.70	GDP(current level)
Pumps and centrifuges 719.2	1.124	.00364	.00344	2.55	.84	GDP(1 + 4 + 10)
Mechanical handling equipment 719.3	-1.637	.00110	---	1.38	.81	GDP(current level)
	.319	.0116	-.0012	1.48	.65	GDP(4 + 8)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4						
Powered-tools, other 719.5	.613	-.0473	-.0606	2.71	.50	GDP(2 + 3)
Packaging machinery 719.62	-.283 .157	.000250 .00149	--- ---	2.87 2.47	.84 .81	GDP(current level) GDP(7 + 8)
Weighing machinery 719.63	-.0398 .0724	.0000673 .000207	--- .000817	2.14 1.47	.65 .73	GDP(current level) GDP8
Spraying, vending, other machinery 719.61, 64, 65, 66	-.290 .115	.000244 .00219	--- -.000342	2.60 1.66	.77 .89	GDP(current level) GDP(4 + 7)
Ball, roller bearings 719.7	.141	.000207	---	1.74	.34	GDP(current level)
Appliances, parts and accessories, other 719.8, 9	-3.645	.00309	---	1.50	.84	GDP(current level)
Electrical power machinery 722	-4.249	.00301	---	1.96	.68	GDP(current level)
Power transforming machinery 722.1	-2.229	.00168	---	2.14	.68	GDP(current level)
Equipment for distributing electricity 723	-.402 .692	.000517 .103	--- -.0386	1.18 2.48	.65 .67	GDP(current level) GDP5

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-.484 .617	.000522 .105	--- -.0395	1.30 2.48	.66 .71	GDP(current level) GDP5
Telecommunications apparatus 724	-.169 1.536	.000915 .00660	--- .00557	2.74 2.16	.80 .56	GDP(current level) GDP8
Television sets 724.1	.183	-.000635	.000595	2.56	.21	GDP8
Radio sets 724.2						
Domestic electrical equipment 725	.0745	.000216	---	1.85	.64	GDP(current level)
Medical apparatus 726	-.100	.0000976	---	1.94	.63	GDP(current level)
Electrical machinery, other 729	-.904	.00160	---	.97	.79	GDP(current level)
Batteries and accumulators 729.1	.987	.00419	-.00393	1.35	.50	GDP(4 + 8)
Electric lamps 729.2	-.0921	.000127	---	2.93	.56	GDP(current level)
Valves, tubes, etc. 729.3						
Automotive electrical equipment 729.4	-.257 .399	.000370 .00338	--- .00214	2.07 1.67	.93 .83	GDP(current level) GDP8
Measuring apparatus 729.5	.0853	.00793	-.00179	1.86	.65	GDP7

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6						
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-.197 -.0809	.000149 .00194	--- .00195	2.60 1.30	.80 .74	GDP(current level) GDP10
Electric traffic control equipment 729.93						
Electrical condensers 729.95						
Other electric equipment 729.94, 96, 98, 99	.207	-.00195	.00265	1.82	.33	GDP4
Railway vehicles 731	-7.428	.00514	---	1.43	.53	GDP(current level)
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3	-6.297 .0570	.00326 .0418	--- -.0132	1.61 1.84	.43 .49	GDP(current level) GDP7
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	-.723 .641	.000764 .00545	--- .00120	1.36 1.66	.58 .51	GDP(current level) GDP7
Road motor vehicles 732	-17.722 -.620	.0187 .294	--- .171	1.45 1.94	.83 .72	GDP(current level) GDP10
Passenger motor cars 732.1	.880	.000617	---	1.19	.29	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-17.969	.0122	---	1.45	.85	GDP(current level)
Motor cycles 732.9						
Road vehicles other than motor 733						
Cycles 733.1						
Aircraft 734						
Ships and boats 735						
Manufactures of Metal 69						

Table 2.10 Forecasting Equations: Syria

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	{ 54.462 -342.081	3.828 0.214	3.0781 ---	2.32 1.71	.97 .87	GDP4 GDP(current level)
Total Machinery non-electric 71	{ -138.819 32.196	0.0916 1.567	--- 1.337	1.83 1.81	.87 .97	GDP(current level) GDP4
Total Electrical machinery 72	{ -47.825 22.476	0.0369 0.663	--- 0.506	1.90 1.60	.91 .94	GDP4 GDP(current level)
Total Transport equipment 73	-160.615	0.0845	---	1.56	.88	GDP(current level)
Power generating machinery 711	8.375	2.168	0.366	0.55	.45	GDP5
Steam engines 711.1, 2, 3	-2.0376	0.425	0.213	0.79	.46	GDP5
Aircraft engines 711.4	-1.696	0.000896	---	2.10	.60	GDP(current level)
Other internal combustion engines 711.5	-1.0987	1.186	0.741	0.62	.61	GDP5
Gas turbines 711.6	-1.255	0.0127	0.000472	3.08	.58	GDP
Nuclear Reactors 711.7						
Agricultural machinery 712	-17.32	0.00914	---	2.19	0.91	GDP(current level)
Agricultural machinery for cultivating soil 712.1, 2	-5.43	0.00259	---	1.84	0.57	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3						
Tractors 712.5	-10.69	0.00588	---	3.14	.92	GDP(current level)
Office machinery 714	-1.810	0.00113	---	2.31	.86	GDP(current level)
Typewriters 714.1	-0.511	0.000265	---	1.61	.83	GDP(current level)
Calculating machinery 714.2	-0.0449	0.000231	---	1.93	.92	GDP(current level)
Statistical machinery 714.3						
Metal-working machinery 715	-2.730	0.0801	0.0983	2.33	.93	GDP4
Machine tools 715.1	-1.446	0.0574	0.0509	2.78	.96	GDP4
Textile and leather machinery 717	-3.173	0.209	0.259	2.68	.95	GDP4
Textile machinery 717.1	-3.112	0.169	0.234	2.49	.94	GDP4
Sewing machinery 717.3	{ -1.800 0.257	0.00106 0.0210	--- 0.0133	2.01 1.42	.97 .92	GDP(current level) GDP4
Special industrial machinery 718	6.623	0.338	0.306	2.12	.96	GDP4
Paper and pulp machinery 718.1	{ -2.907 -0.777	0.00124 0.0221	--- 0.0201	1.48 2.32	.72 .98	GDP(current level) GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	0.326	0.00945	0.00994	2.01	.97	GDP4
Food processing machinery 718.3	-4.447	0.0828	0.116	2.15	.90	GDP4
Construction, mining machinery 718.4	-4.977	0.00686	---	1.99	.79	GDP(current level)
Mineral processing machinery 718.51	3.436	0.134	0.0473	1.05	.77	GDP4
Glass working machinery 718.52						
Other special machinery 719	15.248	0.701	0.415	0.86	.98	GDP4
Air-conditioning machinery 719.12	-0.614 0.0367	0.000345 0.00385	--- 0.00590	1.64 2.24	.72 .96	GDP(current level) GDP4
Industrial furnaces, strokers, ovens 719.13, 14	0.316	0.0314	0.0104	1.84	.87	GDP4
Refrigerating equipment 719.15	0.419	0.00438	0.0070	1.34	.89	GDP4
Other heating, cooling equipment 719.11, 19	-0.516	0.0357	0.310	3.38	.99	GDP4
Pumps and centrifuges 719.2	-2.264	0.0281	0.0291	1.56	.65	GPD(1 + 4)
Mechanical handling equipment 719.3	-0.512	0.151	0.0597	2.57	.97	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4						
Powered-tools, other 719.5	{ -2.750 -0.295	0.00135 0.0284	--- 0.0181	1.31 1.99	.90 .98	GDP(current level) GDP4
Packaging machinery 719.62	0.0801	0.0195	0.0178	1.19	.96	GDP4
Weighing machinery 719.63	0.144	0.0068	0.00204	1.33	.88	GDP4
Spraying, vending, other machinery 719.61, 64, 65, 66	{ -0.545 0.453	0.000469 0.00304	--- 0.00754	2.78 1.53	.82 .91	GDP(current level) GDP4
Ball, roller bearings 719.7	0.536	0.0137	0.00416	1.00	.89	GDP4
Appliances, parts and accessories, other 719.8, 9	-23.0926	0.0124	---	1.98	.93	GDP(current level)
Electrical power machinery 722	-9.0897	3.243	2.892	0.75	.67	GDP5
Power transforming machinery 722.1	-3.464	2.240	1.430	0.92	.92	GDP5
Equipment for distributing electricity 723	1.415	0.157	0.482	0.76	.19	GDP5

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	1.364	0.141	0.449	0.76	.18	GDP5
Telecommunications apparatus 724	-16.673	0.0103	---	1.96	.91	GDP(current level)
Television sets 724.1	-2.546	0.00107	---	1.50	.67	GDP(current level)
Radio sets 724.2	-0.441	0.00107	---	2.87	.64	GDP(current level)
Domestic electrical equipment 725	-2.229	0.00140	---	1.84	.88	GDP(current level)
Medical apparatus 726	-0.0335	0.000184	---	2.31	.94	GDP(current level)
Electrical machinery, other 729	-12.547 0.833	0.00721 0.166	--- -0.0864	2.23 2.01	.94 .93	GDP(current level) GDP4
Batteries and accumulators 729.1	-0.511 0.105	0.000313 0.00639	--- 0.00366	2.22 1.51	.98 .88	GDP(current level) GDP4
Electric lamps 729.2	0.154	0.00140	---	1.86	.47	GDP(current level)
Valves, tubes, etc. 729.3	-2.0510 -0.504	0.000927 0.0175	--- 0.0152	1.53 2.56	.67 .94	GDP(current level) GDP4
Automotive electrical equipment 729.4	-0.718	0.000612	---	2.96	.98	GDP(current level)
Measuring apparatus 729.5	-2.0763 0.553	0.00138 0.0336	--- 0.0148	3.34 1.75	.94 .86	GDP(current level) GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	-0.347	0.000207	---	1.60	.99	GDP(current level)
	0.0707	0.00375	0.00254	1.13	.87	GDP4
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-0.433	0.188	0.190	2.77	.95	GDP4
Electric traffic control equipment 729.93						
Electrical condensers 729.95						
Other electric equipment 729.94, 96, 98, 99	-0.153	0.0427	-.00509	2.06	.76	GDP4
Railway vehicles 731	-9.476	0.00415	---	1.49	.83	GDP(current level)
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3						
Passengers: railway, tramway cars 731.4, 5						

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6						
Road motor vehicles 732	-104.128	0.0568	---	1.57	.95	GDP(current level)
Passenger motor cars 732.1	-26.650	0.0127	---	1.43	.90	GDP(current level)
Buses, lorries, trucks 732.2, 3, 4	-60.711	0.0321	---	2.06	.89	GDP(current level)
Motor cycles 732.9	-3.653	0.00181	---	2.240	.61	GDP(current level)
Road vehicles other than motor 733	-4.297	0.00265	---	3.28	.78	GDP(current level)
Cycles 733.1	-0.202	0.000116	---	1.85	.81	GDP(current level)
Aircraft 734	-42.016	0.0197	---	1.79	.55	GDP(current level)
Ships and boats 735	-2.348	0.00118	---	2.99	.57	GDP(current level)
Manufactures of Metal 69	-833.	276.374	350.217	3.02	.97	GDP4

Table 2.11 Forecasting Equations: Tunisia

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Total Engineering products 7	-113.4	.152	---	0.74	.95	GDP(current level)
Total Machinery non-electric 71	-54.4	.0729	---	0.99	.95	GDP(current level)
Total Electrical machinery 72	-19.9	.0304	---	0.81	.87	GDP(current level)
Total Transport equipment 73	-39.5	.0487	---	0.70	.97	GDP(current level)
	1.64	1.04	1.43	1.27	.80	GDP8
Power generating machinery 711	-1.47	.585	1.21	1.93	.85	GDP5
	.744	.0888	.224	1.40	.90	GDP(5 + 8)
Steam engines 711.1, 2, 3	.712	.00477	.0978	1.29	.50	GDP5
	.848	-.00282	.0198	1.09	.52	GDP(5 + 8)
Aircraft engines 711.4	.00637	.000113	.00125	1.90	.55	GDP
	.0616	.00848	.0112	2.60	.63	GDP8
Other internal combustion engines 711.5	-1.64	.00415	---	2.47	.96	GDP(current level)
	1.73	.0725	.139	1.75	.85	GDP8
Gas turbines 711.6	-1.71	.0615	.398	.89	.81	GDP5
	-1.11	0248	.0793	1.52	.81	GDP8
Nuclear Reactors 711.7						
Agricultural machinery 712	-6.31	.00837	---	1.56	.98	GDP(current level)
Agricultural machinery for cultivating soil 712.1, 2	-.131	.0018	---	2.12	.90	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Dairy farm equipment 712.3	-.224	.00021	---	1.55	.20	GDP(current level)
Tractors 712.5	-4.95	.00568	---	0.86	.93	GDP(current level)
Office machinery 714	-.903	.00191	---	3.11	.88	GDP(current level)
Typewriters 714.1	.0102	.000255	---	2.59	.66	GDP(current level)
Calculating machinery 714.2	.357	.000325	---	2.02	.57	GDP(current level)
Statistical machinery 714.3	-.727	.000881	---	2.24	.82	GDP(current level)
Metal-working machinery 715	-1.03	.0024	---	1.76	.93	GDP(current level)
Machine tools 715.1	-.504	.00165	---	2.28	.88	GDP(current level)
Textile and leather machinery 717	-2.93	.00568	---	2.36	.82	GDP(current level)
Textile machinery 717.1	-.961	.00367	---	2.61	.66	GDP(current level)
Sewing machinery 717.3	-1.68	.00158	---	1.91	.91	GDP(current level)
Special industrial machinery 718	-12.6	.0138	---	0.85	.89	GDP(current level)
Paper and pulp machinery 718.1	.310	-.00227	.0106	1.75	.52	GDP4

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Printing machinery 718.2	-.386	.000866	---	2.07	.90	GCP(current level)
Food processing machinery 718.3	-.781	.00112	---	1.92	.87	GDP(current level)
Construction, mining machinery 718.4	-7.35	.00738	---	1.10	.87	GDP(current level)
Mineral processing machinery 718.51	-4.09	.0039	---	0.71	.81	GDP(current level)
Glass working machinery 718.52	-.247	.000239	---	2.74	.31	GDP(current level)
Other special machinery 719	-25.1	.0332	---	1.04	.94	GDP(current level)
Air-conditioning machinery 719.12	-.222	.000473	---	3.02	.94	GDP(current level)
Industrial furnaces, strokers, ovens 719.13, 14	-.877	.00107	---	1.30	.87	GDP(current level)
Refrigerating equipment 719.15	.150	.0319	.0244	0.65	.74	GDP8
Other heating, cooling equipment 719.11, 19	-2.30 .207	.00281 .0192	--- .108	3.37 1.84	.87 .72	GDP(current level) GDP8
Pumps and centrifuges 719.2	-2.13	.760	.909	0.85	.90	GDP5
Mechanical handling equipment 719.3	-7.30 -1.63	.00744 .150	--- .248	0.81 0.99	.85 .80	GDP(current level) GDP8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Domestic appliances, non-electric 719.4	.0778	.000071	.0004	1.96	.40	GDP
Powered-tools, other 719.5	-.791	.00134	---	2.75	.87	GDP(current level)
Packaging machinery 719.62	-1.49	.00152	---	1.47	.88	GDP(current level)
Weighing machinery 719.63	-.317 -.0204	.000374 .0116	--- .00892	1.80 1.18	.93 .86	GDP(current level) GDP8
Spraying, vending, other machinery 719.61, 64, 65, 66	-.397	.00064	---	1.12	.91	GDP(current level)
Ball, roller bearings 719.7	-.451 .137	.000729 .0140	--- .0235	2.00 2.37	.91 .81	GDP(current level) GDP8
Appliances, parts and accessories, other 719.8, 9	-7.71	.00988	---	2.29	.95	GDP(current level)
Electrical power machinery 722	-5.73	.00805	---	1.04	.81	GDP(current level)
Power transforming machinery 722.1	-2.36	.00354	---	1.29	.81	GDP(current level)
Equipment for distributing electricity 723	-1.39	.00331	---	2.09	.54	GDP(current level)

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Insulated wire and cable 723.1	-1.12	.00294	---	2.10	.50	GDP(current level)
Telecommunications apparatus 724	-7.32	.0103	---	1.03	.77	GDP(current level)
	.0615	.279	.301	0.89	.77	GDP8
Television sets 724.1	.491	.0167	.0149	0.84	.25	GDP8
Radio sets 724.2	.0343	.00011	---	3.04	.74	GDP(current level)
Domestic electrical equipment 725	-1.11	.00146	---	1.66	.89	GDP(current level)
Medical apparatus 726	-.416	.000524	---	2.21	.97	GDP(current level)
Electrical machinery, other 729	-3.78	.00659	---	2.14	.93	GDP(current level)
	1.54	.199	.156	1.69	.83	GDP8
Batteries and accumulators 729.1	-.514	.00113	---	1.40	.91	GDP(current level)
	.331	.0279	.0337	2.19	.87	GDP8
Electric lamps 729.2	.164	.000263	---	1.60	.60	GDP(current level)
Valves, tubes, etc. 729.3	.331	.0461	.0156	2.72	.89	GDP5
	.479	.0112	.000291	1.71	.81	GDP8
Automotive electrical equipment 729.4	-.687	.00121	---	3.26	.93	GDP(current level)
	.363	.0317	.0296	2.45	.75	GDP8
Measuring apparatus 729.5	-1.40	.00186	---	1.75	.89	GDP(current level)
	.0640	.0588	.0436	1.12	.83	GDP8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Electro-mechanical hand tools 729.6	.163	.000194	---	2.37	.71	GDP(current level)
	-.0260	.0077	.00393	1.95	.78	GDP8
Electron and proton accelerators 729.7						
Electro-magnetic appliances 729.91						
Electric furnaces 729.92	-.176	.0323	.0147	1.18	.79	GDP8
Electric traffic control equipment 729.93	-.129	.00012	---	1.37	.68	GDP(current level)
Electrical condensers 729.95	-.0458	.0196	.0053	2.00	.82	GDP5
Other electric equipment 729.94, 96, 98, 99	-.0449	.000229	---	1.91	.81	GDP(current level)
Railway vehicles 731	-1.30	-.064	.312	1.66	.70	GDP8
Steam locomotives 731.1						
Electric locomotives 731.2						
Locomotives, other 731.3						
Passengers: railway, tramway cars 731.4, 5	-.925	-.0364	.113	1.93	.57	GDP8

Products	Coefficient Estimates			D.W.	R^2	GDP Components (j)
	(a_0)	(a_1)	(a_2)			
Freight: railway, tramway cars 731.6	-3.27	.00242	---	2.56	.48	GDP(current level)
Road motor vehicles 732	-19.5	.0276	---	1.78	.94	GDP(current level)
Passenger motor cars 732.1	-.933 1.92	.0039 .102	--- .114	1.50 1.24	.92 .91	GDP(current level) GDP8
Buses, lorries, trucks 732.2, 3, 4	-11.3	.0134	---	2.07	.85	GDP(current level)
Motor cycles 732.9	-.663	.00085	---	1.51	.82	GDP(current level)
Road vehicles other than motor 733	-1.35	.00165	---	2.18	.90	GDP(current level)
Cycles 733.1	-.262 .022	.000357 .0081	--- .0108	2.32 2.62	.93 .84	GDP(current level) GDP8
Aircraft 734	-.888	.178	.216	2.0	.84	GDP8
Ships and boats 735	-2.81	.431	.0443	1.36	.80	GDP8
Manufactures of Metal 69	-9889.2	13.21	---	2.55	.96	GDP(current level)

2.3 The Forecasts of Sectoral GDP

2.3.1 The General Framework

In order to use the forecasting equations described in the previous section, forecasts of GDP by sector must be generated for each country. These could potentially be generated with a medium scale econometric model (50-100 equations would be necessary). However, generation of such a model for even one country is a major undertaking, particularly when the data required are not readily available. Thus (with the exception of Iraq where reliable sectoral forecasts were already available) econometric models were not used for this purpose. Instead, time series extrapolations were used.

The time series procedure was broken down into steps. In the first step forecasts were generated for GDP, taking into account the impact of oil revenues on GDP in the oil-producing countries. Two alternative forecasts, based on alternative assumptions about future oil revenues in the oil-producing countries were generated for each country. (These forecasts are denoted High and Low.) In the second step, sectoral shares of GDP were forecast, again based on time series extrapolations. For the large oil producing countries, such as Saudi Arabia, oil GDP was forecast separately from non-oil GDP and then the shares of non-oil GDP were forecast in the second step. The third and final step was the multiplication of sectoral shares by the forecast GDP in order to obtain forecasts of sectoral GDP levels.

The short time series precluded any more sophisticated time series procedures.

2.3.2 The GDP Forecasts

It might be argued that relatively simple econometric models could have been used to generate these forecasts. However, these results would be sensitive to forecasts of exogenous variables, particularly the price of oil or oil revenues. Here we relate GDP directly to oil prices, in order to make this dependence explicit.

The historical growth rates of GDP (in current U.S. dollars) for each of the eleven countries or country groupings are presented in Table 2.12. For the five major oil-producing countries or regions (Algeria, GCC, Iraq, Libya and Saudi Arabia), growth rates of oil and non-oil GDP and oil revenues are also reported. GDP growth rates have been high in most countries, but have been substantially higher in the major oil-producing countries (19.3 to 34.3 percent per year) than in the other Arab countries (9.2 to 17.4 percent per year). In Algeria and Iraq non-oil GDP has grown much more slowly than oil GDP, while in the GCC, Libya and Saudi Arabia non-oil GDP and oil GDP have grown at similar rates, with non-oil GDP growing slightly faster. (The high rates of growth of non-oil GDP in these countries begin from very low bases and might not be expected to continue over the rest of this century.)

Two aspects of the relationship between the growth of oil revenues and the growth of GDP in the Arab countries deserve examination. The first question is the relationship between the growth of oil revenues and non-oil GDP in the major oil-producing countries. Some insight into this question may be gained from examining Tables 2.13 and 2.14. These tables compare growth-rate equations which take the

Table 2.12 Historical Growth Rates

		Average Annual Growth Rates			
Country	Time Period	GDP	Oil GDP	Non-oil GDP	Oil Revenues
Algeria	1968-77	19.3	30.7	15.9	38.4
Egypt	1970-78	17.4	-	-	-
GCC	1971-80	26.9	25.8	29.0	35.4
Iraq	1967-78	21.6	28.5	16.2	36.3
Jordan	1967-77	9.2	-	-	-
Libya	1967-78	21.7	21.1	22.5	25.2
Morocco		15.5	-	-	-
Saudi Arabia	1971-80	34.3	33.3	36.2	41.7
Sudan	1967-77	16.7	-	-	-
Syria	1970-78	20.7	-	-	-
Tunisia		15.9	-	-	-

Notes: 1. Growth rates were determined from econometric estimates of the following equation:

$$\text{Ln } X_t = a + bt + \epsilon_t,$$

where b is the estimated growth rate.

2. All values are in current U.S. dollars.

Table 2.13 The Impact of Oil Revenues on GDP Growth in the Major Arab Oil Producing Countries

			Coefficient Estimates: $\text{Ln GDP} = a+bT+c\text{LnREVO}_t$				
Country	Time Period		a	b	c	$\bar{R}^2$	D.W.
Algeria	1968-77	1.	7.68	.193	-	.963	1.33
		2.	6.51	.089	.270	.993	1.52
GCC	1971-80	1.	8.59	.269	-	.907	1.09
		2.	4.09	.054	.609	.998	2.78
Iraq	1967-78	1.	7.39	.216	-	.925	.78
		2.	5.23	.063	.420	.982	2.00
Libya	1967-78	1.	7.44	.217	-	.966	1.41
		2.	3.97	.076	.558	.993	.99
Saudi Arabia	1971-80	1.	8.43	.343	-	.915	.68
		2.	3.60	.094	.596	.987	1.77

Table 2.14 The Impact of Oil Revenues on Non-oil GDP Growth in the Major Arab Oil Producing Countries

		Coefficient Estimates: $LnNOGDP_t = a+bT+cLuREVO_t$				
Country	Time Period	a	b	c	$\bar{R}^2$	D.W.
Algeria	1968-77	7.63	.159	-	.991	1.10
		7.33	.132	.071 (1.96)	.993	1.36
GCC	1971-80	7.44	.290	-	.967	.51
		5.62	.203	.247 (2.22)	.978	1.04
Iraq	1967-78	7.15	.162	-	.951	.41
		6.35	.106	.155 (1.95)	.962	.83
Libya	1967-78	6.54	.225	-	.969	.75
		4.57	.146	.136 (1.82)	.975	.96
Saudi Arabia		7.28	.324	-	.980	.74
		6.60	.324	.092 (0.79)	.979	.88

Notes:
1. Non-oil GDP and oil revenues are measured in current U.S. dollars.
2. The figures in parentheses are t-statistics.

impact of oil revenues on GDP growth into account (equation 2) with those which do not (equation 1). In Table 2.13, the estimated growth rates of GDP are reduced substantially when the impacts of oil revenues are introduced. This is to be expected since there is a close relationship between oil revenue and oil-GDP (see Table 2.15), which is a major component of GDP. The relationship between oil revenue and the growth of non-oil GDP is shown in Table 2.14. In each of the major oil-producing countries the growth rate of non-oil GDP drops when the impact of oil-revenues is taken into account. The coefficient of oil revenues is statistically significant (at the 5% level) in a one-tail test in all countries except Saudi Arabia. These facts imply that the future growth of oil revenues will be an important determinant of the future growth of GDP in the major Arab oil-producing countries,

The second question regarding the impact of oil revenues on GDP in the Arab countries is the possibility of spillover from the major oil-producing countries to the non-oil countries (Egypt, Jordan, Morocco, Sudan, Syria and Tunisia). These spillovers may be the result of remittances from workers in the oil-producing countries, of aid from oil-producers or of trade. Tests for these spillovers were carried out by including the GDP of a neighboring major oil-producing country in growth rate equations for each non-oil country. Generally, no spillover effect was found. Only in Syria was the coefficient of GDP of a neighboring oil-producer (Saudi Arabia) statistically significant. As a result of these tests, GDP in each Arab country was forecast independently, with no consideration of spillovers from other countries.

For the oil-producing countries, several alternative equation

Table 2.15 The Relationship Between Oil Revenues and Oil GDP in the Major Arab Oil Producing Countries

		Coefficient Estimates of $\text{LnOil GDP}_t = a + b\text{LnREVO}$			
Country	Time Period	a	b	$\bar{R}^2$	D.W.
Algeria	1968-77	1.79	.812	.980	2.03
GCC	1971-80	2.76	.735	.994	1.74
Iraq	1967-78	2.06	.779	.990	2.98
Libya	1967-78	1.75	.832	.995	1.52
Saudi Arabia	1971-80	2.02	.803	.983	2.15

systems could be used to forecast oil, non-oil and total GDP ($OGDP_t$, $NOGDP_t$, and GDP_t). Each of the following equations could be a component of the system:

$$(2.1) \qquad \text{Ln } OGDP_t = a_1 + c_1 \text{ Ln } REVO$$

$$(2.2a) \qquad \text{Ln } NOGDP_t = a_2 + b_2 t + c_2 \text{ Ln } REVO$$

or

$$(2.2b) \qquad \text{Ln } NOGDP_t = a_2 + b_2 t + c_2 \text{ Ln } OGDP_t$$

$$(2.3) \qquad \text{Ln } GDP_t = a_3 + b_3 t + c_3 \text{Ln } OGDP_t$$

$$(2.4) \qquad GDP_t = OGDP_t + NOGDP_t$$

Each of the three possible pairs from equations 2.1, 2.2 and 2.3 could be used in conjunction with equation 2.4 to generate the forecasts. Of the three equations, equations 2.1 and 2.3 fit the historical data somewhat better than equation 2.2. Thus one system of equations (system S2.1) includes equations 2.1, 2.3 and 2.4.

$$(S2.1) \quad \left[\begin{array}{rl} \text{Ln } GDP_t & = a_3 + b_3 t + c_3 \text{ Ln } REVO_t \\ \text{Ln } OGDP_t & = a_1 + c_1 \text{ Ln } REVO_t \\ NOGDP_t & = GDP_t - OGDP_t \end{array}\right.$$

When this system was used to generate forecasts for the five major Arab oil-producers, reasonable results were obtained for Saudi Arabia but the forecasts for Algeria, GCC, Iraq and Libya were too low. For these countries or regions a second equation system (system S2.2) was tried made up of equations 2.1, 2.2b and 2.4.

$$(S2.2) \quad \left[\begin{array}{rl} \text{Ln } NOGDP_t & = a_2 + b_2 t + c_2 \text{ Ln } OGDP_t \\ \text{Ln } OGDP_t & = a_1 + c_1 \text{ Ln } REVO_t \\ GDP_t & = OGDP_t + NOGDP_t \end{array}\right.$$

This system produced reasonable forecasts for Algeria and Libya, but forecasts for the GCC and Iraq were much too high. For Iraq and the GCC, system S2.1 was used with the rate of growth of GDP increased over the econometric estimates in order to produce somewhat higher rates of growth of overall GDP. The equations used for each major oil-producing country or region are reported in Table 2.16, while the forecast growth rates are reported in Table 2.17.

For the non-oil countries the level of GDP (in current U.S. dolalrs) was forecast by applying a constant annual rate of growth to the 1977 value, as indicated in the following equation:

$$(2.5) \qquad GDP_t = GDP_{t_o} (1+r)^{(t-t_o)} \qquad \text{for } t > t_o$$

The rates of growth are shown in Table 2.17.

In order to use the equation systems for the major Arab oil producers, forecasts of oil revenues must be made. The period of the 1970's saw rapid increases in oil revenues in these countries. However, the early 1980's have been characterized by falling demand for oil and falling oil prices. The basic assumption made here is that the world oil market will recover by 1985, as the world economy recovers from the severe recession which began in 1981, and continue to expand thereafter. Two assumptions are made about the rate of expansion after 1985, leading to the "High" and "Low" growth scenarios.

For the GCC and Saudi Arabia 1981 levels of oil revenues are set at 1980 levels, the levels decline until 1983 (by 30%), recover in 1985 to 1980 levels, and grow thereafter at 4.5 percent per year in the "High" growth (or H) scenario and by 1.5 percent per year in the "Low"

Table 2.16 GDP Forecasting Equations for the Major Arab Oil-Producers

Country (system)	GDP Forecasting Equations
Algeria (S2.2)	$\text{Ln NOGDP}_t = 7.18 + .132T + .086 \text{ Ln OGDP}_t$
	$\text{Ln OGDP}_t = 1.79 + .812 \text{ LnREVO}_t$
	$\text{GDP}_t = \text{OGDP}_t + \text{NOGDP}_t$
GCC (S1.1)	$\text{Ln GDP}_t = 4.09 + .097T + .609\text{Ln REVO}_t$
	$\text{Ln OGDP}_t = 2.67 + .745 \text{ Ln REVO}_t$
	$\text{NOGDP}_t = \text{GDP}_t - \text{OGDP}_t$
Iraq (S1.1)	$\text{Ln GDP}_t = 5.25 + .079T + .4202\text{Ln REVO}_t$
	$\text{Ln OGDP}_t = 2.06 + .779 \text{ Ln REVO}_t$
	$\text{NOGDP}_t = \text{GDP}_t - \text{OGDP}_t$
Libya (S2.2)	$\text{Ln NOGDP}_t = 4.57 + .144T + .316\text{Ln REVO}_t$
	$\text{Ln OGDP}_t = 2.31 + .00182T + .754\text{Ln REVO}_t$
	$\text{GDP}_t = \text{OGDP}_t + \text{NOGDP}_t$
Saudi Arabia	$\text{Ln GDP}_t = 3.601 + .094 + .596 \text{ Ln REVO}_t$
	$\text{Ln OGDP}_t = 2.017 + .803 \text{ Ln REVO}_t$
	$\text{NOGDP}_t = \text{GDP}_t - \text{OGDP}_t$

Notes:
1. The time trend variable, T, takes on the value 1 in 1967.
2. The values in the OGDP equation, for the GCC were based on econometric estimates over the period 1971-1981 and thus differ slightly from those reported in Table 2.15.

Table 2.17 Forecast Growth Rates, 1980-2000

Country		Growth Rates, percent per year			
		GDP	Oil GDP	Non-Oil GDP	Oil Revenues
Algeria	High	11.7	1.8	14.3	2.2
	Low	11.4	0.0	14.1	0.0
Egypt	High	11.3	-	-	-
	Low	9.0	-	-	-
GCC (use SA)	High	14.8	2.2	20.5	3.4
	Low	13.3	0.6	18.9	1.1
Iraq	High	10.0	3.0	13.4	3.9
	Low	8.7	0.7	12.2	1.0
Jordan	High	12.0	-	-	-
	Low	9.2	-	-	-
Libya	High	12.5	2.7	16.7	3.4
	Low	11.7	1.0	15.9	1.1
Morocco	High	11.4	-	-	-
	Low	8.5	-	-	-
Saudi Arabia	High	13.3	3.8	18.4	4.3
	Low	11.5	1.5	16.5	1.4
Sudan	High	11.0	-	-	-
	Low	8.2	-	-	-
Syria	High	11.5	-	-	-
	Low	9.0	-	-	-
Tunisia	High	12.0	-	-	-
	Low	9.5	-	-	-

growth (or L) scenario. The level of oil revenues forecast for Libya differs only in the pattern of decline, with a drop of 12.4% of the 1980-81 levels in 1982 and recovery to those levels in 1985. Algeria has been characterized by declining oil production in the latter 1970's. Thus, a drop of 20% relative to 1980-81 levels is forecast for 1983, but the 1985 forecast is only 88 percent of the 1980 level. After 1985, growth in oil revenues is forecast at 3.8 percent per year in the H scenario and only 0.8 percent per year in the L scenario. In Iraq, oil revenues have been reduced by the effects of the war with Iran on oil exports, in addition to the impact of the decline in the world oil market. For Iraq a decline of 20% is forecast in 1981 and a further decline of 20% is forecast for 1982 (no 1981 or 82 data is available). The level of revenues is forecast to recover from a low in 1982 to a level in 1985 which is 10% below the 1980 level. After 1985, oil revenue is forecast to grow at 6.0% in the H scenario and 3.0% in the L scenario.

The above assumptions concerning oil revenues may appear to be somewhat arbitrary, but they are based on the best judgements of Econometric Research. When the forecast oil revenues are substituted into the forecasting equations given in Table 2.16, forecasts of Oil GDP, Non-oil GDP and total GDP (in millions of U.S. dollars) are generated.

Table 2.18 Forecasts of Oil-Revenue for the Major Arab Oil Producers

Country	Oil Revenues in Millions of U.S. Dollars 1981	1982	1983	1984	1985	After 1985, Annual Growth Rate
Algeria - H	10787	9648	8630	9051	9493	3.8%
- L						0.8%
GCC - H	46154	38615	32308	38615	46154	4.5%
- L						1.5%
Iraq - H	20785	15589	17845	20427	23383	6.0%
- L						3.0%
Libya - H	22527	19742	20630	21558	22527	4.5%
- L						1.5%
Saudi Arabia - H	102212	86880	71548	85517	102212	4.5%
- L						1.5%

2.4 Forecasts of Sectoral GDP

The forecasts of sectoral GDP were based on forecast shares of GDP in the non-oil countries and on forecast shares of non-oil GDP in the major oil producing countries. Two sets of share forecasts were generated. The first set was based on an extrapolation of historical data and thus is referred to as the "Trend" (or T) forecasts. The second set of share forecasts modifies the trend forecasts to take account of official development plans for increased growth of the manufacturing sector. This set of share forecasts is referred to as the "Off-trend" (or O) forecasts.

The trend share forecasts were based on a system of logistic equations whose parameters were estimated from time series data (the estimation periods are the same as those shown in Table 2.12). The system of equations is given below:

$$(S2.3) \quad \left[\begin{array}{ll} S_{jT} = A_j/(1+EXP(-B_j*T)) & \qquad j = 1, \ldots, 9 \\ S_{10T} = 1 - \sum_{j=1}^{9} S_{jT} & \end{array} \right.$$

where S_{jT} is the share of total GDP generated in sector j in year T. Formulating the final share as a residual forces the fitted values for the shares to sum to one, as well as forcing the forecast shares to sum to one. For the major oil producers Oil GDP is forecast separately so that only Non-oil GDP was allocated to sectors using the above system. The above equation system was estimated by full information maximum likelihood, using the FIML procedure in the TSP econometrics package. This method produced reasonable share forecasts for all countries except Saudi Arabia and Iraq where the shares have fluctuated greatly. In Saudi Arabia the 1977 shares of Non-oil GDP were used as the forecast trend shares. For Iraq the trend share forecasts were based on an ECWA study.

In order to produce the "Off-trend" (or O) share forecasts, the manufacturing share of GDP was forecast separately. The trend shares for each of the non-manufacturing sectors were then reduced by the same proportion, in order that the sum of all sectoral shares equals one. The trend and off trend shares for manufacturing are reported (for 1985, 1990 and 2000) in Table 2.19.

Four sets of sectoral GDP forecasts were produced. Combination of the trend and off-trend shares with the high GDP level forecasts gives the high trend (H-T) and high off-trend (H-O) sectoral GDP forecasts, while combination of these forecast shares with the low GDP level forecasts gives the low trend (L-T) and low off-trend (L-O) sectoral GDP forecasts.

Table 2.19 Forecasts of the Share of Manufacturing in GDP (in millions of U.S. dollars)

Country		1985	1990	2000
Algeria	- T	.178	.214	.269
	0	.200	.240	.300
Egypt	- T	.121	.108	.087
	0	.170	.200	.240
GCC	- T	.093	.111	.136
	0	.110	.140	.180
Iraq	- T	.103	.126	.180
	0	.120	.150	.220
Jordan	- T	.133	.140	.154
	0	.140	.160	.190
Libya	- T	.038	.047	.057
	0	.060	.090	.012
Morocco	- T	.163	.163	.163
	0	.170	.190	.220
Saudi Arabia	- T	.076	.091	.108
	0	.070	.120	.180
Sudan	- T	.071	.068	.062
	0	.090	.120	.150
Syria	- T	.075	.075	.075
	0	.120	.160	.210
Tunisia	- T	.111	.111	.111
	0	.130	.170	.210

2.5 Conversion of Demand Forecasts to Constant 1980 U.S. Dollars

The insertion of the forecast levels of GDP and changes in sectoral GDP into the forecasting equations 2.1 and 2.2 produces forecasts of the demands for capital goods in current U.S. dollars. However, in order to examine the size of the Arab market for capital goods, it is necessary to convert these forecasts into constant dollar terms. Forecasts of a price deflator for capital goods are required for this conversion.

Capital goods in Arab countries are imported from the developed countries in Eastern and Western Europe, Japan and North America. Ideally, a weighted average of capital goods price indexes from these supplying countries should be used as a basis for forecasting the price deflator for capital goods in the Arab countries. However, such indexes are readily available for only a few countries. Thus data from the U.S. were used (Data from Canada produced very similar results.) The period of the 1970's has demonstrated clearly the impact of oil prices on the prices of all products in the developed countries. The following equation was estimated using U.S. data for the period 1972-82.

$$(2.6) \qquad \text{Ln } PE_t = \underset{(83.3)}{3.52} + \underset{(6.94)}{0.0575t} + \underset{(2.33)}{0.0765} \text{ Ln } PO_{t-1}$$

$$\bar{R}^2 = 0.988 \qquad D.W. = 1.41$$

where PE_t is the price index for equipment in period t (1980=100) and PO_{t-1} is the price index of oil lagged one period (1980=100) The coefficient of the oil price in the above equation is statistically significant (at the 5% level in a one-tail test), indicating a measureable relationship between the lagged oil-price and the capital goods price. The above equation was used to generate forecasts of the price index for equipment, assuming that oil prices stayed constant at $29 per barrel until 1985 and rose by 6 percent per year thereafter. The average annual rate of growth of capital goods prices implied by these forecasts over the period 1980-2000 is 6.6 percent.

2.6 Summary

The overall methodology used to prepare the forecasts of capital goods demand, together with the detailed structure of the many steps involved, have been described in this section. In the next section, a brief discussion of the components of the forecasting system is presented. The forecasts are discussed in section 4.

3.0 The Results: The Components of the Forecasting Procedure

At each step in the forecasting procedure, results are produced which feed into the next step. Here, some of the more important of these "intermediate" results are discussed. In particular, the equations used to forecast demand and the GDP forecasts are discussed.

3.1 The Demand Forecasting Equation Estimates

The demand forecasting equations are presented in Tables 2.1 - 2.11. The quality of these forecasting equations is generally good, particularly considering the short time series on which the estimates are based. In Table 3.1 a summary of the values of R^2 for each country is presented. These values provide measures of the degree to which the equations "fit" the historical time series data. One potential summary value from this table is the fraction of equations with R^2 values less than 0.6. These numbers range from a low of 0.0 in Saudi Arabia to a high of 25.9 in Sudan. Results are particularly good in Saudi Arabia and the other GCC and are poorest in Algeria and Sudan.

The numbers are virtually the same whether forecasting equations are based on the current level of GDP (version A) or on changes in sectoral GDP (version B). This suggests that both the ability to import as measured by the current level of GDP and the growth of sectoral GDP are closely linked to capital goods imports. Examination of the individual tables indicate that whenever one type of forecasting equation performs poorly the other type also tends to perform poorly.

Equations for certain sets of products tend to fit poorly in several countries: Gas turbines, agricultural machinery (in Egypt, Iraq, and Syria), pulp and paper machinery, food processing machinery, glass

Table 3.1 Distribution of R^2 Values of the Demand Forecasting Equations

Country		0.0<0.4	0.4<0.5	0.5<0.6	0.6<0.7	0.7<0.8	0.8<0.9	0.9<0.10	0.0<0 6	Total
Algeria	A	6	6	6	5	12	25	18	18	78
	%	(7.7)	(7.7)	(7.7)	(6.4)	(15.4)	(32.0)	(23.1)	(23.1)	(100.0)
	B	3	7	7	9	19	14	19	17 .	78
	%	(3.8)	(9.0)	(9.0)	(11.5)	(24.4)	(17.9)	(24.4)	(21.8)	(21.8)
Egypt	A	2	6	3	5	18	25	18	11	77
	%	(2.6)	(7.8)	(3.9)	(6.5)	(23.4)	(32.4)	(23.4)	(14.3)	(100.0)
	B	2	4	5	11	21	18	16	11	77
	%	(2.6)	(5.2)	(6.5)	(14.3)	(27.3)	(23.4)	(20.7)	(14.3)	(100.0)
GCC	A	0	0	1	12	19	18	18	1	68
	%	-	-	(1.5)	(17.6)	(27.9)	(26.5)	(26.5)	(1.5)	(100.0)
	B	0	0	1	12	25	13	17	1	68
	%	-	-	(1.5)	(17.6)	(36.8)	(19.1)	(25.0)	(1.5)	(100.0)
Iraq	A	1	0	5	8	7	24	26	6	71
	%	(1.4)	-	(7.0)	(11.3)	(9.9)	(33.8)	(36.6)	(8.4)	(100.0)
	B	0	2	6	8	9	25	21	8	71
	%	-	(2.8)	(8.5)	(11.3)	(12.7)	(35.2)	(29.5)	(11.3)	(100.0)
Jordan	A	1	0	5	7	19	21	5	6	58
	%	(1.7)	-	(8.6)	(12.1)	(32.8)	(36.2)	(8.6)	(10.3)	(100.0)
	B	1	0	5	8	18	21	5	6	58
	%	(1.7)	-	(8.6)	(13.8)	(31.1)	(36.2)	(8.6)	(10.3)	(100.0)
Libya	A	1	4	1	8	10	29	20	6	73
	%	(1.4)	(5.5)	(1.4)	(11.0)	(13.7)	(39.7)	(27.3)	(8.2)	(100.0)
	B	2	3	1	8	11	27	21	6	73
	%	(2.7)	(4.1)	(1.4)	(11.0)	(15.1)	(37.0)	(28.7)	(8.2)	(100.0)
Morocco	A	2	3	8	8	14	22	17	13	74
	%	(2.7)	(4.1)	(10.8)	(10.8)	(18.9)	(29.7)	(23.0)	(17.6)	(100.0)
	B	2	3	8	8	13	25	15	13	74
	%	(2.7)	(4.1)	(10.8)	(10.8)	(17.6)	(33.8)	(20.2)	(17.6)	(100.0)
Saudi Arabia	A	0	0	0	3	9	22	37	0	71
	%	-	-	-	(4.2)	(12.7)	(31.0)	(52.1)	(0.0)	(100.0)
	B	0	0	1	4	4	27	35	1	71
	%	-	-	(1.4)	(5.6)	(5.6)	(38.7)	(49.3)	(1.4)	(100.0)
Sudan	A	4	2	8	17	11	12	4	14	58
	%	(6.9)	(3.4)	(13.8)	(29.3)	(19.0)	(20.7)	(6.9)	(24.1)	(100.0)
	B	4	2	9	14	15	14	0	15	58
	%	(6.9)	(3.5)	(15.5)	(24.1)	(25.9)	(24.1)	-	(25.9)	(100.0)
Syria	A	2	3	4	8	6	14	30	9	67
	%	(3.0)	(4.5)	(6.0)	(11.9)	(9.0)	(20.9)	(44.7)	(13.5)	(100.0)
	B	2	3	4	7	4	14	33	9	67
	%	(3.0)	(4.5)	(6.0)	(10.4)	(6.0)	(20.9)	(49.2)	(13.5)	(100.0)
Tunisia	A	3	2	7	4	6	26	27	12	75
	%	(4.0)	(2.7)	(9.3)	(5.3)	(8.0)	(34.7)	(36.0)	(16.0)	(100.0)
	B	3	2	7	4	8	32	19	12	75
	%	(4.0)	(2.7)	(9.3)	(5.3)	(10.7)	(42.7)	(25.3)	(16.0)	(100.0)

continued ...

Source: Tables 2.1 - 2.11

Note: A. The equation depending on current GDP is selected whenever there are two equations reported for a particular import category.

B. The equation depending on sectoral GDP is selected whenever there are two equations reported for a particular import category.

working machinery, equipment for distributing electricity, electric lamps, other locomotives, railway passenger and freight cars, and aircraft. However, the R^2 value is less than 0.6 in more than three countries only for pulp and paper machinery (five countries) and aircraft (four countries). For some of the above products the level of imports is very low (pulp and paper machinery, glass working machinery and railway locomotives and cars), which may explain the relatively poor fit. The problems with agricultural machinery and some consumer goods have been anticipated and discussed in the previous section.

When the forecasting equations in individual countries are examined, we find that changes in GDP in manufacturing are strongly associated with capital goods imports in Algeria, the GCC, Iraq and Syria as imports of industrial machinery tend to dominate other types of capital goods. In Saudi Arabia, Libya and Tunisia GDP changes in transport and communications are most successful in forecasting many types of capital goods imports.

3.2 Sectoral GDP Forecasts

The sectoral GDP forecasts are presented in the Appendix Tables. These forecasts are conditional on subjective forecasts of oil revenues, GDP growth in the non-oil countries and planning success (in the off-trend scenarios). Some attempt to account for this subjectivity has been made in the presentation of four different forecasts, but the only real test of these forecasts will be a comparison with future events.

4.0 Arab Future Demand For Capital Goods: The Results of the Forecasting Exercise

4.1 The Background

Simple forecasting exercises usually involve the use of mechanical trend extrapolation for some variables of interest. Such a simple procedure may be useful in the case of some limited subset of problems where accuracy and explanation are not essential or where the growth process of the underlying phenomena is strongly stable.

These conditions are certainly inapplicable to the case of the demand for capital goods in the Arab area, both because the underlying phenomena is not stable and because explanation of behaviour is very essential in this regard, particularly given our interest in policy prescriptions.

Thus, a more refined approach is employed here. We begin by postulating a set of hypotheses about the demand for capital goods relationship and proceed to test them empirically as was described above. The assignment of specific capital goods to sectors employed engineering and other technical data, whereas the set of explanatory variables chosen, their signs and the structure of the equation were modelled along the *a priori* restrictions of economic theory.

A number of Arab configurations was constructed to highlight the expected or needed Arab cooperation in the field of capital goods production given the scale and size sensitivities of the production processes of these goods. First, each Arab state for which sufficient data existed was considered separately (except for the GCC member countries: Qatar, Kuwait, Oman, Bahrain and UAE which were aggregated together given the small size of each separate unit). Second, Arab oil producing countries were grouped together as one group and the Arab non-oil countries as another. The main motivation here is to focus on the role of oil revenues in financing capital goods imports and to highlight the differences between these two groups. Third, the Arab World is divided into four natural sub-groups -- Gulf Cooperation Council, Fertile Crescent, Nile Valley and Maghreb. The emphasis here is on the likely cooperation that could be fostered among the homogeneous and geographically contiguous countries within each group. Fourth, North Africa Arabs are grouped together and similarly the Asian Arabs. Finally, the picture in the entire Arab World is presented to underline the enormous potentialities of this area particularly in the production of capital goods.

Three target years were chosen to represent the short-run (1985) the medium-run (1990) and the long-run (2000). The actual values of imports and domestic production in 1977 are presented to provide a bench-mark against which the forecasts may be checked. For each forecast year, four alternatives are considered. The basis of the alternatives is depicted below.

A Schematic Representation of the Forecasting Alternatives

Sectoral Shares GDP Growth	Trend	Off-Trend
High	HT	HO
Low	LT	LO

There are two basic premises. The first pertains to the structure of the economy and the second pertains to its capacity for growth. Structure is revealed through the sectoral shares. Here the share of manufacturing played, as is discussed in section 3, the major role. Two basic alternatives are entertained; the first emphasizes the historical trend, whereas the second is rooted in the aspirations and the plans of the country under study.

The capacity of the economy to grow is captured by the rate of growth of GDP. Two Arab distinguishing features were emphasized. First, the Arab oil producing countries were treated as a special group whose GDP growth was related primarily to the developments in the international and domestic oil industry. Second, Arab non-oil producers' GDP growth rates were designated high or low in relation to their position with regard to their historical growth rates.

The forecasts were first generated in current dollars and then deflated to represent constant 1980 U.S. dollar values. Below only the constant dollar values are discussed.

There are a total of 20 tables to depict the results of our forecasting exercise. In general, they are self-explanatory and for this reason and other considerations we will restrict our analysis to only a few of them.

4.2 The Short-Term Forecast (1985)

The total demand for capital goods in the Arab World (16 countries covered) was over $30.5 billion in 1977. In 1985, the lowest forecast (LT), is for $51.5 billion, whereas the highest forecast (HO) is for $61.1 billion. (see Table 4.20). Thus, the total Arab demand for capital goods is expected to double over a period of eight years in constant 1980 prices under the high off-trend assumptions. The largest component of this increase is expected to be in non-electrical machinery, followed closely by transport equipment.

Special industrial machinery, construction and mining machinery, mineral processing machinery and other special machinery represent the major components of the forecast demand for capital goods in 1985. Of special significance in the short-term are also the demand for the manufactures of metals, road motor vehicles, electrical power machinery, pumps and centrifuges, and mechanical handling equipment. (see Table 4.20).

The Arab East, which in 1977 accounted for 62 percent of the total demand for capital goods in the Arab World, is expected to represent on average about 69 percent in 1985. (see Table 4.19). The expected increase in the Arab East share is a direct result of the large sub-group of oil producing countries in this region. Actually, if the Arab East is partitioned into the Fertile Crescent and the GCC areas, it is clear that much of the share of the Arab East in the total Arab demand for capital goods is primarily that of the GCC group. (see Table 4.15). Thus, in 1985, the GCC demand for capital goods is forecast to reach $30.9 billion (HT). This by itself, is over 50 percent of the Arab total and more than 73 percent of the Arab East total in the same year. The Maghreb region with a forecast demand for capital goods of $14.3 billion in 1985 represents the second largest expected demand in the Arab world, whereas the Fertile Crescent is the third largest with a forecast demand of $11.2 billion. Nor surprisingly, the Nile Valley countries will account for the smallest share of the Arab total demand for capital goods in the same year. (see Tables 4.14-4.17).

The forecasting results for the short-term reveal some interesting regional differences in the commodity patterns of the Arab demand for capital goods. In the Arab East, the demand for transport equipment is forecast to exceed that of non-electrical machinery in 1985 under the trend assumptions. However, when off-trend sectoral shares are postulated, the demand for non-electrical machinery exceeds that of transport equipment. (see Table 4.19). In North Africa, however, the demand for non-electrical machinery is forecast to exceed that for transport equipment under all hypotheses. More important is the fact that the differences between the forecast values for these two product groups which was very small in 1977 in this region, will grow significantly larger in 1985. (see Table 4.18).

Focusing on the expected demand for capital in the sub-regional groupings, reveals even more interesting features. In the Maghreb area, the expected demand for transport equipment is forecast to fall short of the demand for non-electrical machinery in 1985 under all hypotheses. (see Table 4.17). The same is true in the Nile Valley. (see Table 4.16). Thus in aggregating these two regions together (to form the North African region) the expected demand for non-electrical machinery is expected to exceed that for transport equipment by a significant margin.

A different picture emerges in the Arab East. The GCC forecast demand for transport equipment in 1985 is significantly larger than that for non-electrical machinery. It is important to note here that the dominance of the demand for transport equipment over the demand for transport equipment falls when the off-trend postulate holds. (see Table 4.15). In the Fertile Crescent, the demand for non-electrical machinery will be significantly higher than that for transport equipment, but the difference is not as large as that in the GCC region, and that is why the Arab East forecast demand for transport equipment exceeds that for non-electrical machinery.

It may seem logical to hypothesize that the differences noted above may be related to the oil factor. Actually, the results in Tables (4.12 & 4.13) show that in oil producing Arab States as well as for the Arab non-oil producers, the forecast demand for non-electrical machinery will exceed the demand for transport equipment in 1985, even though the dominance of the former over the latter is more pronounced in the case of the Arab non-oil producers. As such, the explanatory factors for such differences among sub-regional areas must be examined on a country by country basis.

In Algeria, the demand for non-electrical machinery exceeds that for transport equipment under all hypothesis in 1985 (see Table 4.1). In Libya, the opposite is true. (see Table 4.2). In Iraq, the demand for non-electrical machinery dominates under all the alternative hypotheses. (see Table 4.3). The opposite is again true for the GCC (excluding Saudi Arabia). (see Table 4.4). In the case of Saudi Arabia there is a slight margin of dominance associated with the demand for non-electrical machinery that is more pronounced under the off-trend hypotheses. (see Table 4.5). In Morocco, the demand for transport equipment exceeds that for non-electrical machinery under all hypotheses, (see Table 4.6). The opposite is true in the case of Tunisia (see Table 4.7). In Egypt, there is a marked preference for non-electrical machinery, that is also true for Sudan. (see Tables 4.8 and 4.9). In Syria, there is a very slight preference for non-electrical machinery, that is not very significant. (see Table 4.10). Finally in Jordan, there is a significant preference for transport equipment over non-electrical machinery. (see Table 4.11).

4.3 The Medium-Term Forecasts (1990)

Arab demand for capital goods is forecast to reach a high (HO) of $89.2 billion in 1990 in constant 1980 prices. Even the low forecast (LT) is a significant $68.1 billion. There is a marked difference between the trend and the off-trend forecasts of demand for capital goods in 1990 which is substantially more pronounced than that in the short-term. Whereas the range of the difference (HO-LT) is expected to be about $9.5 billion in 1985, this difference is slated to reach over $21.1 billion in 1990. In percentage terms, the difference in 1985 is only 18.4 percent of the lowest forecast, whereas it is expected to exceed 30 percent in 1990.

Again, the forecast demand for non-electrical machinery will exceed the expected demand for transport equipment and the magnitude of dominance of the former over the latter is significantly larger under the off-trend alternatives than under the projected trends of sectoral shares.

At the product level, power generating machinery, special industrial machinery, construction and mining machinery, other special machinery, pumps and centrifuges, mechanical handling equipment, electrical power machinery, power transforming machinery, telecommunication apparatus, buses, trucks and lorries, and manufactures of metals dominate the expected structure of demand for capital goods in the medium-term.

As expected, the regional distribution of demand highlights the inordinate share of oil producing countries in total Arab demand for capital goods in 1990. Arab oil producing countries are forecast to account for over 85 percent of the total Arab demand for capital goods in 1990 (HO alternative). This share is slightly higher than that which is likely to prevail in 1985.

Oil producing Arab states also have a different demand structure for capital goods than non-oil Arab states. Agricultural machinery constitutes a major component of non-oil Arab states' demand for non-electrical machinery. The same product is only a relatively small fraction of oil producers total demand for capital goods, particularly in the medium term. Demand for other special machinery in oil producing states is a major item; its relative importance in non-oil Arab states falls far below its corresponding share it accounts for in the oil producing Arab states.

The GCC member countries are again expected to account for the major share of Arab demand for capital goods. The forecast demand for this region is $46.6 billion in 1990, or about 52.2 percent of the corresponding Arab total (HO hypothesis). Thus, there appears to be a tendency for this region to increase its total share in the Arab total given that it is likely to represent 50.6 percent in 1985 under the same set of hypotheses. A distinctive feature of this region is the high demand for transport equipment which may even exceed the demand for non-electrical equipment particularly if current trends were to continue and the planners fail to restructure the regional economy. Again the Maghreb region is forecast to reveal a demand for capital goods of $20.3 billion in 1990 placing it second to the GCC region. The Fertile Crescent is third with a forecast demand of $16.3 billion and the Nile Valley is expected to show the smallest forecast demand of $6 billion in the same year.

4.4 The Long-Term Forecast (2000)

Demand for capital goods in the Arab world in the year 2000 is expected to exceed $188 billion under the high-off trend alternative. The lowest forecast (LT) is slated to be about $113.3 billion. The high forecast represents a six-fold increase over 1977 whereas the low forecast represents almost a four-fold increase. The range between the highest forecast and the lowest is over $74.8 billion or almost 66 percent of the lowest forecast. In 1990, this range was $21.1 billion or about 30 percent of the lowest forecast then. The large range in the year 2000 is indicative of the importance of restructuring the Arab economies on the patterns of demand. As such the forecasts under (HO) and even (LO) are planning forecasts; they depend on the decision-makers' ability to execute their plans.

The demand for machinery (electrical and non-electrical) will dominate all other demands for capital goods and equipment. The largest demand is expected to be for non-electrical machinery. The proportions of demand for these three major products are also sensitive to the trend vs. off-trend hypotheses. Invariably, the off-trend hypothesis involves larger demands for machinery over transport equipment. This is a natural outcome of the added importance accorded to the manufacturing sectors under the off-trend conditions.

Other special machinery dominates the demand for non-electrical machinery, followed by special industrial machinery. Of special significance in the year 2000 are also the expected demands for electric power machinery, power transforming machinery, road motor vehicles, trucks, lorries and buses, and manufacture of metals.

The long-term regional distribution of the Arab demand for capital goods indicates a number of revealing patterns. First oil producing Arab states are likely to raise their share in the total demand. Their forecast demand is $166.8 billion in the year 2000. This is almost 89 percent of the total demand under the off-trend high GDP growth hypothesis. The same share in 1990 is expected to reach 85 percent. Thus, a greater polarization of economic activity is implicit in this system of forecasts. Even when the oil producing states were to experience low GDP growth rates and their industrial structures were to remain along their historical trends, whereas the non-oil producers were to experience high GDP growth rates and they were to succeed in moving their economies off their historical trends, the Arab non-oil producers will not represent more than 21.1 percent. If both groups were to develop at the best stipulated forecast (the HOs), then the non-oil Arab states' total demand for capital goods would represent only 12.8 percent of the corresponding total of Arab oil producing states.

There are a number of differences in the long-term emerging pattern of demand for capital goods between oil and non-oil Arab states. First, agricultural machinery, textile machinery, textile and leather machinery and power transforming machinery are the dominant products in products dominates the demand for capital goods in the oil producing states. Second, the relative range of difference between the alternative forecasts is much larger in the non-oil producing states than in the oil producing states. The percentage difference between the HO and the LT forecasts is 66 percent for the oil producing states, whereas it exceeds 74 percent for the non-oil states. Thus, careful planning in the non-oil Arab states is a matter of necessity to maintain their respective shares and importance in the total Arab market for capital goods.

Although the GCC region will remain as the major Arab market area for capital goods in the year 2000, its share of this market (on the demand side) will decline slightly from 52.1 percent in 1990 to 51.9 percent in the year 2000.

The Maghreb group is expected to raise its share in the total Arab demand for capital goods from 22.7 percent in 1990 to 24.6 percent in the year 2000. Whereas the Fertile Crescent group will maintain the same share in the year 2000 that it is expected to represent in 1990. The Nile Valley group's share is forecast to fall from 6 to 5 percent between 1990 and the year 2000.

4.5 Concluding Remarks About the Forecasts

A number of generalizations may be enumerated about the future magnitude and pattern of the Arab demand for capital goods between 1985 and the year 2000. First, the Arab area is expected to represent a formidable market for capital goods of all kinds. Second, the oil producing states who represented a large share of the Arab demand in 1977, are likely to represent a growing share of the future demand.

Third, demand for non-electrical machinery will likely grow larger than the corresponding demand for transport equipment, however, the forecast demand for the latter group is still inordinately high in proportion to the total Arab demand for capital goods. Fourth, the forecast demands for capital goods are generally highly sensitive to the underlying assumptions about sectoral shares in the structure of GDP. Although the forecasts are sensitive to GDP, they are more markedly sensitive to the assumption about sectoral shares. Fifth, there are significant differences in the commodity pattern of the demand for capital goods among the geographical regions of the Arab world that suggests the need for regional strategies of production and/or procurement of these products.

ALGERIA

TABLE 4.1 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	(ACTUAL VALUES)	HT	HD	LT	LD	HT	HD	LT	LD	HT	HD	LT	LD
TOTAL ENGINEERING PRODUCTS (7)	3903.	6142.	6718.	6619.	6338.	9981.	10181.	9278.	9981.	21099.	25861.	20618.	24138.
TOTAL MACHINERY NON-ELECTRIC (71)	1937.	3238.	3938.	3173.	3348.	5038.	5393.	4672.	5037.	11468.	13573.	10813.	12667.
TOTAL ELECTRICAL MACHINERY (72)	647.	1111.	1219.	1079.	1147.	1729.	1848.	1602.	1728.	5979.	4753.	3749.	4309.
TOTAL TRANSPORT EQUIPMENT (73)	1246.	1598.	1598.	1598.	1598.	2139.	2139.	2079.	2079.	4898.	4898.	3876.	3876.
POWER GENERATING MACHINERY (711)	219.	288.	251.	254.	248.	402.	392.	385.	382.	982.	932.	891.	768.
STEAM ENGINES (711.1, 2, 3)	27.	29.	29.	29.	29.	37.	36.	36.	35.	79.	75.	79.	69.
AIR CRAFT ENGINES (711.4)	4.	3.	2.	3.	3.	4.	4.	4.	4.	9.	8.	9.	8.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	69.	192.	147.	148.	148.	237.	231.	229.	229.	935.	492.	586.	487.
GAS TURBINES (711.6)	111.	72.	69.	78.	68.	114.	111.	110.	108.	298.	239.	244.	225.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	78.	288.	288.	288.	288.	262.	282.	295.	299.	492.	492.	465.	465.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1)	9.	89.	89.	89.	89.	118.	116.	119.	119.	223.	223.	211.	211.
DAIRY FARM EQUIPMENT (712.3)	1.	5.	5.	5.	5.	6.	6.	6.	6.	16.	16.	15.	15.
TRACTORS (712.5)	49.	88.	88.	98.	88.	113.	112.	118.	118.	299.	299.	198.	198.
OFFICE MACHINERY (714)	29.	37.	38.	37.	38.	98.	90.	96.	93.	118.	109.	112.	109.
TYPEWRITERS (714.1)	5.	9.	9.	9.	9.	14.	13.	13.	13.	29.	28.	27.	29.
CALCULATING MACHINERY (714.2)	5.	11.	11.	11.	19.	19.	18.	15.	18.	34.	31.	32.	38.
STATISTICAL MACHINERY (714.3)	0.	7.	7.	7.	7.	18.	18.	18.	9.	21.	19.	19.	18.
METAL WORKING MACHINERY (715)	65.	231.	228.	197.	288.	369.	329.	298.	318.	698.	838.	699.	774.
MACHINE TOOLS (715.1)	43.	191.	165.	148.	156.	237.	292.	229.	237.	943.	642.	512.	688.
TEXTILE AND LEATHER MACHINERY (717)	81.	72.	72.	72.	72.	92.	92.	89.	89.	167.	167.	158.	158.
TEXTILE MACHINERY (717.1)	76.	64.	64.	64.	64.	83.	83.	88.	88.	191.	191.	143.	143.
SEWING MACHINERY (717.3)	2.	4.	4.	4.	4.	5.	5.	5.	5.	8.	8.	7.	7.
SPECIAL INDUSTRIAL MACHINERY (718)	398.	642.	782.	629.	663.	1089.	1013.	967.	1080.	2278.	2698.	2146.	2517.
PAPER AND PULP MACHINERY (718.1)	12.	25.	39.	35.	37.	95.	98.	92.	99.	124.	148.	117.	138.
PRINTING MACHINERY (718.2)	19.	21.	21.	21.	21.	27.	27.	27.	27.	52.	52.	49.	49.
FOOD PROCESSING MACHINERY (718.3)	92.	35.	38.	34.	36.	53.	96.	91.	93.	119.	141.	112.	131.
CONSTRUCTION, MINING MACHINERY (718.4)	175.	198.	184.	188.	182.	288.	272.	275.	266.	598.	543.	559.	514.
MINERAL PROCESSING MACHINERY (718.51)	91.	189.	282.	181.	191.	293.	312.	284.	298.	675.	888.	628.	767.
GLASS WORKING MACHINERY (718.52)	3.	2.	3.	2.	2.	4.	4.	3.	4.	6.	5.	6.	9.
OTHER SPECIAL MACHINERY (719)	1111.	1523.	1479.	1491.	1497.	2419.	2391.	2334.	2294.	5968.	5868.	5192.	4819.
AIR-CONDITIONING MACHINERY (719.12)	26.	28.	28.	28.	19.	31.	38.	38.	29.	59.	68.	61.	56.
INDUSTRIAL FURNACES, ETC, OVENS (719.13)	59.	52.	56.	52.	53.	64.	66.	61.	62.	189.	208.	178.	186.
REFRIGERATING EQUIPMENT (719.15)	15.	14.	15.	14.	19.	22.	23.	21.	22.	49.	58.	46.	54.
OTHER HEATING, COOLING EQUIPMENT (719.11, 19)	193.	156.	170.	193.	161.	242.	257.	234.	242.	958.	691.	919.	680.
PUMPS AND CENTRIFUGES (719.2)	194.	196.	198.	182.	188.	308.	298.	278.	291.	689.	636.	649.	682.
MECHANICAL HANDLING EQUIP (719.3)	253.	678.	734.	658.	692.	1087.	1139.	1032.	1047.	2469.	2923.	2329.	2727.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	3.	3.	3.	3.	3.	4.	4.	4.	4.	8.	8.	5.	5.
POWER HAND-TOOLS, OTHER (719.5)	39.	182.	112.	108.	188.	188.	179.	154.	158.	364.	431.	342.	482.

PACKAGING MACHINERY (719.62)	26.	16.	16.	16.	16.	24.	23.	23.	23.	52.	48.	49.	46.
WEIGHING MACHINERY (719.63)	9.	10.	10.	10.	10.	13.	13.	12.	12.	24.	24.	23.	23.
SPRAYING,VENDING, OTHER MACHINERY (719.61, 64, 65, 66)	26.	17.	17.	17.	17.	22.	22.	22.	22.	42.	42.	40.	40.
BALL,ROLLER BEARINGS (719.7)	10.	14.	15.	14.	15.	22.	23.	21.	22.	49.	58.	47.	54.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	302.	372.	386.	364.	371.	576.	598.	557.	564.	1280.	1384.	1215.	1298.
ELECTRICAL POWER MACHINERY (722)	260.	320.	310.	313.	308.	504.	491.	487.	479.	1144.	1097.	1079.	1001.
POWER TRANSFORMING MACHINERY (722.1)	136.	185.	179.	181.	177.	293.	285.	283.	270.	666.	615.	620.	582.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	66.	86.	86.	86.	86.	116.	116.	112.	112.	223.	223.	211.	211.
INSULATED WIRE AND CABLE (723.1)	61.	89.	86.	97.	85.	143.	139.	138.	139.	320.	302.	309.	286.
TELECOMMUNICATIONS APPARATUS (724)	134.	269.	269.	269.	269.	363.	363.	352.	352.	698.	698.	660.	660.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	23.	43.	43.	43.	43.	57.	57.	56.	56.	110.	110.	104.	104.
MEDICAL APPARATUS (726)	12.	14.	14.	14.	14.	19.	19.	19.	19.	37.	37.	35.	35.
ELECTRICAL MACHINERY OTHER (729)	147.	191.	191.	191.	191.	254.	254.	246.	246.	479.	479.	454.	454.
BATTERIES AND ACCUMULATORS (729.1)	20.	23.	23.	23.	23.	30.	30.	29.	29.	56.	56.	53.	53.
ELECTRIC LAMPS (729.2)	7.	10.	10.	10.	10.	13.	13.	12.	12.	23.	23.	22.	22.
VALVES,TUBES, ETC. (729.3)	5.	4.	4.	4.	4.	6.	6.	6.	6.	13.	12.	12.	11.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	21.	26.	26.	26.	26.	34.	34.	33.	33.	63.	63.	60.	60.
MEASURING APPARATUS (729.5)	35.	49.	49.	49.	49.	65.	65.	63.	63.	123.	123.	116.	116.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	2.	4.	4.	4.	4.	6.	6.	6.	6.	14.	13.	13.	12.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)	1.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
ELECTRIC FURNACES (729.92)	20.	44.	46.	44.	44.	70.	71.	68.	68.	157.	167.	148.	158.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	4.	3.	3.	3.	3.	5.	4.	4.	4.	10.	9.	9.	9.
ELECTRIC CONDENSORS (729.95)	1.	2.	2.	2.	2.	4.	4.	4.	4.	9.	8.	8.	8.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	30.	11.	11.	11.	11.	15.	15.	14.	14.	28.	28.	27.	27.
RAILWAY VEHICLES (731)	122.	124.	124.	124.	124.	168.	168.	163.	163.	324.	324.	306.	306.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)	0.	8.	8.	8.	8.	13.	13.	13.	13.	31.	29.	29.	27.
LOCOMOTIVES, OTHER (731.3)	29.	10.	10.	10.	10.	16.	15.	15.	15.	35.	33.	33.	31.
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)	36.	43.	43.	43.	43.	59.	59.	57.	57.	115.	115.	109.	109.
FREIGHT' RAILWAY, TRAMWAY CARS (731.6)	42.	39.	39.	39.	39.	54.	54.	52.	52.	105.	105.	99.	99.
ROAD MOTOR VEHICLES (732)	565.	1228.	1228.	1228.	1228.	1657.	1657.	1607.	1607.	3182.	3182.	3008.	3008.
PASSENGER MOTOR CARS (732.1)	81.	130.	130.	130.	130.	172.	172.	167.	167.	324.	324.	307.	307.
BUSES,LORRIES, TRUCKS (732.2, 3, 4)	298.	770.	770.	770.	770.	1058.	1058.	1010.	1010.	2033.	2033.	1922.	1922.
MOTOR CYCLES (732.9)	1.	3.	3.	3.	3.	3.	3.	3.	3.	6.	6.	6.	6.
ROAD VEHICLES OTHER THAN MOTOR (733)	44.	94.	94.	94.	94.	127.	127.	123.	123.	245.	245.	231.	231.
CYCLES (733.1)	2.	3.	3.	3.	3.	4.	4.	4.	4.	6.	6.	6.	6.
AIRCRAFT (734)	49.	61.	61.	61.	61.	78.	78.	76.	76.	143.	143.	135.	135.
SHIPS AND BOATS (735)	434.	83.	83.	83.	83.	108.	108.	105.	105.	203.	203.	192.	192.
MANUFACTURES OF METALS (69)	580.	870.	987.	851.	870.	1376.	1411.	1328.	1346.	3116.	3354.	2934.	3143.

SOURCE: ECONOMETRIC RESEARCH LTD.

LIBYA

TABLE: 4.2 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	2589.	4985.	4985.	4985.	4985.	5741.	6741.	6331.	6331.	14611.	14611.	12928.	12928.
TOTAL MACHINERY NON-ELECTRIC (71)	728.	1799.	1799.	1799.	1799.	2366.	2366.	2223.	2223.	5103.	5103.	4376.	4376.
TOTAL ELECTRICAL MACHINERY (72)	584.	1116.	1116.	1116.	1116.	1507.	1507.	1415.	1415.	3261.	3261.	2795.	2795.
TOTAL TRANSPORT EQUIPMENT (73)	1099.	1971.	1971.	1971.	1971.	2677.	2677.	2514.	2514.	5826.	5826.	4991.	4991.
POWER GENERATING MACHINERY (711)	96.	288.	274.	269.	257.	476.	498.	429.	402.	1265.	1198.	1030.	936.
STEAM ENGINES (711.1, 2, 3)	16.	123.	117.	115.	109.	208.	197.	186.	175.	562.	511.	496.	414.
AIR CRAFT-ENGINES (711.4)	18.	49.	49.	49.	49.	62.	62.	58.	58.	135.	135.	116.	116.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	46.	94.	90.	88.	84.	155.	147.	139.	132.	413.	379.	337.	307.
GAS TURBINES (711.6)	19.	25.	24.	24.	23.	37.	35.	33.	31.	90.	82.	72.	66.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	61.	188.	188.	188.	188.	254.	254.	239.	239.	552.	552.	473.	473.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	9.	47.	47.	47.	47.	63.	63.	60.	60.	130.	130.	110.	110.
DAIRY FARM EQUIPMENT (712.3)	3.	2.	2.	2.	2.	3.	3.	3.	3.	7.	7.	6.	6.
TRACTORS (712.5)	38.	128.	120.	128.	128.	162.	162.	152.	152.	391.	391.	301.	301.
OFFICE MACHINERY (714)	11.	27.	27.	27.	27.	37.	37.	35.	35.	88.	88.	69.	69.
TYPEWRITERS (714.1)	4.	7.	7.	7.	7.	10.	10.	9.	9.	22.	22.	19.	19.
CALCULATING MACHINERY (714.2)	4.	8.	8.	8.	8.	11.	11.	10.	10.	24.	24.	20.	20.
STATISTICAL MACHINERY (714.3)	2.	5.	5.	5.	5.	7.	7.	6.	6.	14.	14.	12.	12.
METAL WORKING MACHINERY (715)	9.	27.	27.	27.	27.	37.	37.	35.	35.	80.	80.	68.	68.
MACHINE TOOLS (715.1)	6.	26.	26.	26.	26.	35.	35.	33.	33.	76.	76.	65.	65.
TEXTILE AND LEATHER MACHINERY (717)	7.	20.	33.	19.	30.	32.	53.	29.	46.	80.	169.	65.	138.
TEXTILE MACHINERY (717.1)	4.	7.	7.	6.	6.	11.	11.	9.	9.	26.	26.	21.	21.
SEWING MACHINERY (717.3)	2.	4.	4.	4.	4.	6.	5.	5.	5.	12.	12.	11.	11.
SPECIAL INDUSTRIAL MACHINERY (718)	159.	324.	324.	324.	324.	435.	435.	409.	409.	940.	940.	885.	885.
PAPER AND PULP MACHINERY (718.1)	2.	2.	4.	2.	4.	4.	6.	3.	5.	10.	20.	8.	16.
PRINTING MACHINERY (718.2)	4.	5.	5.	5.	5.	7.	7.	6.	6.	14.	14.	12.	12.
FOOD PROCESSING MACHINERY (718.3)	2.	23.	45.	21.	41.	37.	78.	33.	68.	93.	228.	76.	184.
CONSTRUCTION, MINING MACHINERY (718.4)	111.	228.	228.	228.	228.	307.	307.	289.	289.	665.	665.	578.	578.
MINERAL PROCESSING MACHINERY (718.51)	39.	79.	146.	74.	134.	128.	228.	114.	198.	323.	743.	262.	602.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (719)	386.	901.	859.	844.	885.	1495.	1416.	1336.	1265.	3983.	3623.	3245.	2958.
AIR-CONDITIONING MACHINERY (719.12)	19.	19.	19.	19.	19.	25.	25.	24.	24.	55.	55.	47.	47.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13.14)	10.	7.	7.	7.	7.	10.	10.	9.	9.	21.	21.	18.	18.
REFRIGERATING EQUIPMENT (719.15)	16.	17.	17.	17.	17.	23.	23.	21.	21.	49.	49.	42.	42.
OTHER HEATING, COOLING EQUIPMENT (719.11.19)	33.	67.	67.	67.	67.	98.	98.	85.	85.	193.	193.	166.	166.
PUMPS AND CENTRIFUGES (719.2)	89.	154.	147.	144.	138.	246.	233.	221.	218.	642.	584.	524.	476.
MECHANICAL HANDLING EQUIP (719.3)	64.	111.	111.	111.	111.	150.	150.	141.	141.	323.	323.	277.	277.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	2.	3.	3.	3.	3.	4.	4.	4.	4.	8.	8.	7.	7.
POWERED-TOOLS, OTHER (719.5)	6.	30.	30.	30.	30.	41.	41.	38.	38.	88.	88.	76.	76.

PACKAGING MACHINERY (719.62)	6.	11.	22.	18.	28.	18.	39.	16.	38.	45.	112.	36.	91.
WEIGHING MACHINERY (719.63)	2.	3.	3.	3.	3.	4.	4.	4.	4.	10.	10.	9.	8.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 68)	14.	28.	28.	28.	28.	38.	38.	36.	36.	83.	83.	71.	71.
BALL, ROLLER BEARINGS (719.7)	23.	3.	6.	3.	6.	5.	10.	4.	8.	12.	31.	10.	25.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	103.	306.	306.	306.	306.	414.	414.	389.	389.	898.	898.	769.	769.
ELECTRICAL POWER MACHINERY (722)	216.	345.	329.	323.	308.	575.	544.	514.	487.	1537.	1398.	1252.	1138.
POWER TRANSFORMING MACHINERY (722.1)	110.	206.	196.	193.	184.	342.	324.	308.	298.	914.	831.	744.	677.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	64.	173.	169.	161.	154.	298.	275.	259.	245.	788.	718.	634.	576.
INSULATED WIRE AND CABLE (723.1)	57.	163.	159.	152.	149.	273.	258.	243.	238.	733.	667.	599.	541.
TELECOMMUNICATIONS APPARATUS (724)	184.	274.	274.	274.	274.	368.	368.	346.	346.	793.	793.	688.	688.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	34.	55.	55.	55.	55.	75.	75.	70.	70.	161.	161.	138.	138.
MEDICAL APPARATUS (726)	8.	9.	9.	9.	9.	13.	13.	12.	12.	28.	28.	24.	24.
ELECTRICAL MACHINERY OTHER (729)	73.	197.	197.	197.	197.	267.	267.	251.	251.	588.	588.	497.	497.
BATTERIES AND ACCUMULATORS (729.1)	9.	19.	19.	19.	19.	25.	25.	24.	24.	54.	54.	46.	46.
ELECTRIC LAMPS (729.2)	4.	7.	7.	7.	7.	9.	9.	9.	9.	20.	20.	17.	17.
VALVES, TUBES, ETC. (729.3)	2.	5.	4.	4.	4.	8.	7.	7.	6.	20.	19.	17.	15.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	10.	32.	32.	32.	32.	43.	43.	41.	41.	94.	94.	80.	80.
MEASURING APPARATUS (729.5)	18.	47.	47.	47.	47.	62.	62.	58.	58.	133.	133.	114.	114.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	2.	5.	5.	5.	5.	7.	7.	6.	6.	15.	15.	13.	13.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	4.	13.	13.	13.	13.	17.	17.	16.	16.	37.	37.	32.	32.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	2.	6.	6.	6.	6.	9.	9.	8.	8.	19.	19.	16.	16.
ELECTRIC CONDENSORS (729.95)	0.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	21.	10.	18.	18.	18.	14.	14.	13.	13.	30.	30.	26.	26.
RAILWAY VEHICLES (731)	0.	1.	1.	1.	1.	1.	1.	1.	1.	3.	3.	2.	2.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)													
PASSENGERS: RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)	0.	1.	1.	1.	1.	2.	2.	1.	1.	4.	4.	3.	3.
ROAD MOTOR VEHICLES (732)	632.	1189.	1189.	1189.	1189.	1608.	1608.	1511.	1511.	3487.	3487.	2988.	2988.
PASSENGER MOTOR CARS (732.1)	151.	310.	310.	310.	310.	418.	418.	393.	393.	904.	904.	775.	775.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	373.	684.	684.	684.	684.	927.	927.	871.	871.	2814.	2814.	1725.	1725.
MOTOR CYCLES (732.9)	1.	1.	1.	1.	1.	1.	1.	1.	1.	3.	3.	3.	3.
ROAD VEHICLES OTHER THAN MOTOR (733)	24.	83.	83.	83.	83.	113.	113.	106.	106.	244.	244.	209.	209.
CYCLES (733.1)	3.	4.	4.	4.	4.	5.	5.	5.	5.	11.	11.	9.	9.
AIRCRAFT (734)	119.	261.	261.	261.	261.	354.	354.	332.	332.	768.	768.	658.	658.
SHIPS AND BOATS (735)	239.	303.	303.	303.	303.	418.	418.	392.	392.	920.	920.	787.	787.
MANUFACTURES OF METALS (69)	299.	712.	677.	665.	632.	1218.	1142.	1079.	1019.	3273.	2974.	2664.	2419.

SOURCE: ECONOMETRIC RESEARCH LTD.

IRAQ

TABLE: 4.3 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

	1977	1985				1990				2000			
PRODUCTS	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	3143.	6531.	8491.	6026.	7434.	9821.	12720.	8251.	10223.	17953.	28637.	12362.	19624.
TOTAL MACHINERY NON-ELECTRIC (71)	1618.	3528.	4531.	3258.	3978.	5289.	6776.	4442.	5452.	9646.	15241.	6647.	10450.
TOTAL ELECTRICAL MACHINERY (72)	638.	1173.	1595.	1079.	1394.	1777.	2306.	1448.	1919.	3244.	5371.	2229.	3675.
TOTAL TRANSPORT EQUIPMENT (73)	702.	1888.	1849.	1743.	1715.	2448.	2361.	2026.	1979.	3682.	3497.	2659.	2397.
POWER GENERATING MACHINERY (711)	156.	188.	173.	164.	158.	206.	196.	167.	160.	221.	188.	141.	118.
STEAM ENGINES (711.1, 2, 3)	82.	14.	14.	13.	13.	16.	15.	13.	13.	17.	15.	11.	9.
AIR CRAFT ENGINES (711.4)	12.	11.	11.	10.	10.	14.	14.	12.	12.	21.	19.	15.	13.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	34.	85.	81.	77.	74.	97.	92.	78.	75.	103.	88.	66.	55.
GAS TURBINES (711.6)	26.	67.	64.	61.	58.	77.	73.	62.	60.	84.	71.	53.	44.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	90.	88.	88.	75.	76.	98.	89.	76.	76.	130.	119.	91.	83.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	27.	18.	18.	17.	17.	21.	20.	18.	17.	30.	27.	21.	19.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	46.	38.	38.	29.	29.	32.	33.	28.	28.	46.	43.	33.	31.
OFFICE MACHINERY (714)	17.	15.	14.	14.	13.	19.	18.	16.	15.	30.	26.	20.	18.
TYPEWRITERS (714.1)	2.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
CALCULATING MACHINERY (714.2)	2.	5.	4.	4.	4.	6.	6.	5.	5.	9.	8.	6.	5.
STATISTICAL MACHINERY (714.3)													
METAL WORKING MACHINERY (715)	55.	152.	193.	148.	169.	229.	298.	192.	233.	410.	653.	288.	440.
MACHINE TOOLS (715.1)	40.	94.	116.	87.	102.	141.	174.	119.	148.	259.	392.	178.	269.
TEXTILE AND LEATHER MACHINERY (717)	81.	216.	273.	199.	240.	324.	409.	272.	329.	591.	919.	407.	631.
TEXTILE MACHINERY (717.1)	65.	192.	242.	177.	212.	287.	362.	241.	292.	524.	815.	361.	559.
SEWING MACHINERY (717.3)	14.	18.	23.	16.	21.	27.	35.	22.	28.	49.	79.	34.	54.
SPECIAL INDUSTRIAL MACHINERY (718)	312.	990.	1182.	888.	1037.	1419.	1787.	1191.	1423.	2980.	3973.	1781.	2727.
PAPER AND PULP MACHINERY (718.1)	53.	28.	34.	26.	30.	41.	51.	35.	41.	75.	113.	52.	78.
PRINTING MACHINERY (718.2)	3.	36.	48.	33.	42.	54.	71.	49.	57.	99.	168.	68.	118.
FOOD PROCESSING MACHINERY (718.3)	15.	58.	59.	47.	52.	73.	86.	62.	70.	132.	191.	91.	132.
CONSTRUCTION, MINING MACHINERY (718.4)	172.	419.	419.	419.	419.	524.	524.	482.	482.	802.	802.	628.	628.
MINERAL PROCESSING MACHINERY (718.51)	63.	308.	368.	277.	323.	453.	594.	308.	446.	838.	1298.	572.	859.
GLASS WORKING MACHINERY (718.52)	1.	19.	20.	18.	18.	28.	38.	24.	24.	50.	67.	35.	47.
OTHER SPECIAL MACHINERY (719)	908.	1511.	2018.	1392.	1766.	2288.	3018.	1911.	2424.	4158.	6788.	2860.	4647.
AIR-CONDITIONING MACHINERY (719.12)	27.	35.	52.	32.	45.	54.	77.	49.	62.	99.	174.	67.	119.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	19.	55.	72.	50.	63.	84.	109.	70.	88.	153.	246.	105.	168.
REFRIGERATING EQUIPMENT (719.15)	20.	70.	93.	64.	82.	105.	148.	80.	113.	193.	316.	132.	216.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	207.	137.	201.	125.	175.	214.	302.	178.	242.	392.	603.	240.	466.
PUMPS AND CENTRIFUGES (719.2)	197.	172.	156.	151.	130.	197.	179.	154.	141.	266.	218.	171.	130.
MECHANICAL HANDLING EQUIP (719.3)	149.	268.	328.	248.	288.	401.	492.	337.	397.	734.	1109.	506.	762.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	1.	3.	3.	3.	3.	4.	4.	4.	4.	6.	6.	5.	5.
POWERED-TOOLS, OTHER (719.5)	16.	32.	44.	30.	38.	49.	65.	41.	52.	89.	147.	61.	101.

PACKAGING MACHINERY (719.62)	14.	40.	54.	56.	47.	61.	81.	51.	65.	111.	103.	76.	129.
WEIGHING MACHINERY (719.63)	3.	10.	12.	9.	10.	14.	10.	12.	14.	26.	40.	10.	27.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 66)	12.	5.	5.	5.	4.	6.	6.	5.	4.	8.	7.	5.	4.
BALL, ROLLER BEARINGS (719.7)	4.	32.	38.	29.	34.	47.	58.	40.	46.	86.	130.	59.	89.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	217.	390.	390.	390.	390.	491.	491.	452.	452.	758.	758.	593.	593.
ELECTRICAL POWER MACHINERY (722)	262.	208.	199.	180.	181.	239.	227.	193.	184.	295.	210.	163.	136.
POWER TRANSFORMING MACHINERY (722.1)	170.	125.	119.	113.	109.	144.	136.	116.	110.	154.	131.	90.	82.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	72.	82.	78.	74.	71.	94.	89.	76.	72.	108.	95.	64.	53.
INSULATED WIRE AND CABLE (723.1)	65.	78.	74.	71.	68.	89.	85.	72.	69.	95.	91.	61.	51.
TELECOMMUNICATIONS APPARATUS (724)	118.	240.	240.	240.	240.	303.	303.	279.	279.	467.	467.	365.	365.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	45.	83.	83.	83.	83.	105.	105.	97.	97.	162.	162.	127.	127.
MEDICAL APPARATUS (726)	4.	10.	10.	10.	10.	13.	13.	12.	12.	20.	20.	15.	15.
ELECTRICAL MACHINERY OTHER (729)	122.	225.	303.	207.	265.	340.	453.	285.	364.	620.	1019.	426.	697.
BATTERIES AND ACCUMULATORS (729.1)	6.	20.	26.	18.	23.	30.	39.	25.	31.	54.	90.	37.	68.
ELECTRIC LAMPS (729.2)	3.	26.	28.	24.	25.	37.	43.	32.	34.	60.	95.	47.	66.
VALVES, TUBES, ETC. (729.3)	1.	10.	13.	9.	12.	15.	20.	13.	16.	27.	44.	19.	30.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	12.	34.	34.	34.	34.	43.	43.	39.	39.	65.	65.	51.	51.
MEASURING APPARATUS (729.5)	21.	51.	60.	47.	60.	78.	102.	65.	82.	142.	229.	90.	157.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	4.	6.	5.	5.	7.	9.	12.	7.	9.	16.	26.	11.	10.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	12.	19.	24.	17.	21.	29.	36.	24.	29.	52.	82.	36.	56.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)													
ELECTRIC CONDENSORS (729.95)													
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	53.	16.	20.	14.	18.	23.	30.	19.	24.	41.	67.	29.	46.
RAILWAY VEHICLES (731)	10.	79.	79.	79.	79.	99.	99.	91.	91.	153.	153.	120.	120.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)	0.	16.	16.	16.	16.	21.	21.	19.	19.	32.	32.	25.	25.
PASSENGERS: RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)	6.	25.	25.	23.	23.	32.	31.	27.	26.	51.	46.	35.	31.
ROAD MOTOR VEHICLES (732)	352.	2058.	2058.	2058.	2058.	2590.	2590.	2390.	2390.	4012.	4012.	3139.	3139.
PASSENGER MOTOR CARS (732.1)	55.	215.	215.	215.	215.	270.	270.	240.	240.	416.	416.	325.	325.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	159.	634.	609.	764.	745.	1079.	1039.	880.	861.	1732.	1531.	1170.	1036.
MOTOR CYCLES (732.9)	1.	11.	11.	11.	11.	14.	14.	13.	13.	21.	21.	17.	17.
ROAD VEHICLES OTHER THAN MOTOR (733)	27.	97.	93.	88.	85.	125.	120.	103.	99.	203.	178.	137.	120.
CYCLES (733.1)	1.	3.	3.	3.	3.	3.	3.	3.	3.	5.	5.	4.	4.
AIRCRAFT (734)	73.	163.	163.	155.	156.	211.	207.	181.	178.	326.	297.	229.	208.
SHIPS AND BOATS (735)	232.	686.	686.	686.	686.	869.	869.	799.	799.	1347.	1347.	1053.	1053.
MANUFACTURES OF METALS (69)	542.	495.	495.	495.	495.	621.	621.	572.	572.	954.	954.	747.	747.

SOURCE: ECONOMETRIC RESEARCH LTD.

GULF COOPERATION COUNCIL (EXCLUDING SAUDI ARABIA)

TABLE: 4.4 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	6534.	11789.	14748.	10267.	12928.	17642.	22049.	13976.	17387.	30291.	53284.	23788.	39232.
TOTAL MACHINERY NON-ELECTRIC (71)	2419.	4157.	5235.	3649.	4588.	6257.	7828.	4956.	6199.	12849.	18847.	8683.	12488.
TOTAL ELECTRICAL MACHINERY (72)	1548.	2794.	3518.	2498.	3082.	4299.	5268.	3335.	4144.	8890.	12712.	5858.	8487.
TOTAL TRANSPORT EQUIPMENT (73)	2517.	6945.	6945.	6945.	6945.	9642.	9642.	8818.	8818.	18189.	18189.	13898.	13898.
POWER GENERATING MACHINERY (711)	384.	1195.	1154.	1048.	1084.	1663.	1599.	1207.	1256.	3119.	2862.	2024.	1849.
STEAM ENGINES (711.1, 2, 3)	84.	266.	297.	231.	222.	373.	399.	292.	281.	789.	647.	498.	417.
AIR CRAFT ENGINES (711.4)	47.	121.	121.	121.	121.	169.	169.	151.	151.	309.	309.	274.	234.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	156.	495.	470.	420.	415.	689.	662.	548.	519.	1291.	1184.	837.	784.
GAS TURBINES (711.6)	89.	266.	297.	232.	224.	369.	399.	291.	288.	691.	639.	490.	412.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	83.	289.	289.	289.	289.	292.	292.	267.	267.	551.	551.	421.	421.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1, 2)	10.	20.	20.	20.	20.	29.	29.	26.	26.	54.	54.	41.	41.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	60.	156.	156.	156.	156.	217.	217.	198.	198.	418.	418.	313.	313.
OFFICE MACHINERY (714)	46.	121.	121.	121.	121.	167.	167.	153.	153.	314.	314.	240.	240.
TYPEWRITERS (714.1)	10.	20.	20.	20.	20.	39.	39.	36.	36.	74.	74.	58.	58.
CALCULATING MACHINERY (714.2)	18.	27.	27.	27.	27.	37.	37.	34.	34.	69.	69.	53.	53.
STATISTICAL MACHINERY (714.3)	14.	39.	39.	39.	39.	49.	49.	45.	45.	93.	93.	71.	71.
METAL WORKING MACHINERY (715)	51.	352.	441.	309.	387.	532.	664.	423.	524.	1058.	1600.	720.	1006.
MACHINE TOOLS (715.1)	34.	176.	221.	154.	194.	265.	331.	210.	261.	545.	881.	356.	530.
TEXTILE AND LEATHER MACHINERY (717)	16.	81.	102.	71.	90.	122.	153.	97.	120.	251.	360.	184.	244.
TEXTILE MACHINERY (717.1)	7.	40.	51.	35.	44.	60.	75.	48.	60.	124.	182.	81.	121.
SEWING MACHINERY (717.3)	3.	40.	51.	35.	44.	66.	75.	48.	59.	124.	182.	81.	120.
SPECIAL INDUSTRIAL MACHINERY (718)	522.	929.	1169.	815.	1025.	1397.	1748.	1107.	1375.	2867.	4213.	1875.	2786.
PAPER AND PULP MACHINERY (718.1)													
PRINTING MACHINERY (718.2)	17.	92.	116.	80.	101.	138.	173.	109.	136.	284.	418.	186.	276.
FOOD PROCESSING MACHINERY (718.3)	12.	58.	73.	51.	64.	87.	109.	69.	86.	179.	263.	117.	174.
CONSTRUCTION, MINING MACHINERY (718.4)	356.	962.	962.	962.	962.	1328.	1328.	1214.	1214.	2481.	2481.	1988.	1988.
MINERAL PROCESSING MACHINERY (718.51)	134.	770.	970.	675.	858.	1164.	1455.	922.	1146.	2399.	3524.	1569.	2331.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (719)	1258.	2185.	2693.	1849.	2323.	3169.	3962.	2518.	3128.	6509.	9571.	4255.	6326.
AIR-CONDITIONING MACHINERY (719.12)	162.	800.	1006.	701.	882.	1202.	1501.	952.	1183.	2465.	3623.	1612.	2396.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13, 14)	22.	120.	151.	105.	132.	181.	226.	143.	178.	373.	548.	244.	363.
REFRIGERATING EQUIPMENT (719.15)	85.	444.	513.	386.	447.	657.	797.	516.	593.	1319.	1703.	856.	1117.
OTHER HEATING, COOLING EQUIPMENT (719.11, 19)	189.	852.	1077.	746.	941.	1286.	1609.	1016.	1269.	2644.	3892.	1726.	2570.
PUMPS AND CENTRIFUGES (719.2)	265.	796.	770.	694.	678.	1113.	1070.	875.	841.	2092.	1922.	1368.	1244.
MECHANICAL HANDLING EQUIP (719.3)	289.	485.	611.	425.	535.	732.	916.	588.	721.	1509.	2217.	987.	1466.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	2.	6.	6.	6.	6.	8.	8.	7.	7.	14.	14.	11.	11.
POWERED-TOOLS, OTHER (719.5)	36.	173.	219.	191.	191.	262.	327.	287.	257.	579.	793.	352.	524.

PACKAGING MACHINERY (719.62)	16.	68.	86.	59.	79.	102.	128.	91.	101.	211.	318.	137.	209.
WEIGHING MACHINERY (719.63)	4.	28.	25.	17.	22.	29.	37.	23.	29.	60.	69.	40.	59.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 69)	21.	82.	104.	71.	91.	123.	154.	87.	121.	292.	372.	164.	269.
BALL, ROLLER BEARINGS (719.7)	4.	18.	22.	16.	19.	26.	33.	21.	26.	53.	78.	39.	52.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	218.	547.	547.	547.	547.	794.	794.	689.	689.	1408.	1408.	1078.	1078.
ELECTRICAL POWER MACHINERY (722)	468.	1509.	1535.	1388.	1331.	2231.	2143.	1749.	1688.	4218.	3864.	2730.	2494.
POWER TRANSFORMING MACHINERY (722.1)	245.	884.	854.	767.	748.	1238.	1198.	978.	932.	2333.	2141.	1512.	1381.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	252.	799.	772.	694.	669.	1123.	1079.	888.	845.	2121.	1946.	1379.	1256.
INSULATED WIRE AND CABLE (723.1)	241.	768.	742.	667.	643.	1088.	1037.	848.	813.	2048.	1872.	1323.	1288.
TELECOMMUNICATIONS APPARATUS (724)	498.	1374.	1374.	1374.	1374.	1985.	1985.	1741.	1741.	3975.	3975.	2736.	2736.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	117.	325.	325.	325.	325.	449.	449.	411.	411.	842.	842.	645.	645.
MEDICAL APPARATUS (726)	14.	46.	45.	39.	38.	66.	63.	51.	49.	126.	115.	81.	73.
ELECTRICAL MACHINERY OTHER (729)	171.	897.	1079.	792.	946.	1288.	1609.	1028.	1288.	2640.	3888.	1727.	2586.
BATTERIES AND ACCUMULATORS (729.1)	33.	189.	213.	148.	188.	254.	317.	281.	258.	521.	766.	341.	506.
ELECTRIC LAMPS (729.2)	9.	43.	55.	38.	48.	65.	81.	52.	64.	133.	198.	87.	129.
VALVES, TUBES, ETC. (729.3)	2.	12.	11.	10.	10.	17.	16.	13.	13.	32.	29.	20.	19.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	23.	59.	59.	59.	59.	82.	82.	75.	75.	152.	152.	116.	116.
MEASURING APPARATUS (729.5)	40.	201.	253.	176.	222.	302.	377.	248.	298.	628.	911.	408.	603.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	9.	23.	23.	23.	23.	32.	32.	29.	29.	60.	60.	46.	46.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	21.	118.	149.	104.	130.	178.	222.	141.	179.	365.	537.	239.	359.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	2.	11.	10.	9.	9.	15.	14.	12.	11.	28.	26.	19.	17.
ELECTRIC CONDENSORS (729.95)													
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	27.	109.	137.	95.	120.	163.	204.	129.	160.	334.	493.	218.	325.
RAILWAY VEHICLES (731)													
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)													
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)													
ROAD MOTOR VEHICLES (732)	1469.	4148.	4148.	4148.	4148.	5743.	5743.	5249.	5249.	10764.	10764.	8239.	8239.
PASSENGER MOTOR CARS (732.1)	618.	1636.	1636.	1636.	1636.	2259.	2259.	2086.	2086.	4225.	4225.	3235.	3235.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	672.	2021.	2021.	2021.	2021.	2888.	2888.	2586.	2586.	5278.	5278.	4039.	4039.
MOTOR CYCLES (732.9)	13.	38.	38.	38.	38.	52.	52.	47.	47.	97.	97.	74.	74.
ROAD VEHICLES OTHER THAN MOTOR (733)	55.	148.	148.	148.	148.	206.	206.	180.	180.	388.	388.	297.	297.
CYCLES (733.1)	2.	5.	5.	5.	5.	7.	7.	6.	6.	13.	13.	10.	10.
AIRCRAFT (734)	337.	857.	857.	857.	857.	1188.	1188.	1085.	1085.	2227.	2227.	1704.	1704.
SHIPS AND BOATS (735)	655.	1782.	1782.	1782.	1782.	2491.	2491.	2274.	2274.	4704.	4704.	3598.	3598.
MANUFACTURES OF METALS (69)	763.	2258.	2172.	1954.	1885.	3152.	3029.	2472.	2375.	5941.	5452.	3852.	3519.

SOURCE: ECONOMETRIC RESEARCH LTD.

SAUDI ARABIA

TABLE: 4.5 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	7622.	16189.	16189.	16189.	16189.	24525.	24525.	20926.	20926.	44260.	44260.	31049.	31049.
TOTAL MACHINERY NON-ELECTRIC (71)	2680.	5684.	5684.	5684.	5684.	9460.	9460.	7229.	7229.	19291.	19291.	10988.	10988.
TOTAL ELECTRICAL MACHINERY (72)	2115.	4062.	4062.	4062.	4062.	6178.	6178.	5268.	5268.	11203.	11203.	4038.	4038.
TOTAL TRANSPORT EQUIPMENT (73)	2825.	5545.	5367.	4127.	4001.	5369.	6018.	4781.	4588.	11971.	10227.	7371.	6234.
POWER GENERATING MACHINERY (711)	421.	684.	647.	498.	477.	713.	679.	542.	512.	1312.	1129.	814.	692.
STEAM ENGINES (711.1, 2, 3)	83.	113.	111.	78.	77.	118.	104.	84.	79.	206.	177.	128.	109.
AIR CRAFT ENGINES (711.4)	46.	104.	100.	81.	78.	128.	121.	96.	90.	237.	202.	140.	123.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	166.	280.	272.	204.	208.	387.	290.	232.	219.	579.	480.	393.	299.
GAS TURBINES (711.6)	121.	198.	195.	118.	115.	199.	191.	123.	117.	288.	241.	176.	151.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	118.	166.	161.	131.	127.	198.	187.	150.	142.	299.	267.	222.	188.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	6.	9.	9.	7.	7.	10.	10.	8.	7.	18.	16.	11.	10.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	82.	133.	129.	106.	102.	161.	152.	122.	115.	291.	248.	188.	152.
OFFICE MACHINERY (714)	46.	91.	91.	91.	91.	138.	138.	118.	118.	249.	249.	179.	179.
TYPEWRITERS (714.1)	3.	24.	23.	18.	17.	28.	27.	21.	20.	54.	46.	33.	28.
CALCULATING MACHINERY (714.2)	5.	21.	20.	16.	15.	25.	24.	19.	18.	47.	40.	29.	24.
STATISTICAL MACHINERY (714.3)	16.	39.	38.	28.	26.	37.	39.	29.	26.	70.	60.	43.	37.
METAL WORKING MACHINERY (715)	58.	116.	116.	116.	116.	177.	177.	151.	151.	321.	321.	230.	230.
MACHINE TOOLS (715.1)	54.	107.	107.	107.	107.	163.	163.	139.	139.	297.	297.	213.	213.
TEXTILE AND LEATHER MACHINERY (717)	17.	33.	33.	33.	33.	50.	50.	43.	43.	90.	90.	65.	65.
TEXTILE MACHINERY (717.1)	13.	18.	18.	18.	18.	27.	27.	23.	23.	49.	49.	35.	35.
SEWING MACHINERY (717.3)	5.	14.	14.	14.	14.	22.	22.	19.	19.	39.	39.	28.	28.
SPECIAL INDUSTRIAL MACHINERY (718)	547.	1281.	1281.	1281.	1281.	1929.	1929.	1652.	1652.	3492.	3492.	2508.	2508.
PAPER AND PULP MACHINERY (718.1)	4.	6.	6.	6.	6.	9.	9.	8.	8.	16.	16.	12.	12.
PRINTING MACHINERY (718.2)	13.	24.	24.	24.	24.	37.	37.	32.	32.	67.	67.	48.	48.
FOOD PROCESSING MACHINERY (718.3)	26.	33.	32.	24.	23.	37.	35.	28.	26.	79.	60.	43.	37.
CONSTRUCTION, MINING MACHINERY (718.4)	355.	987.	894.	591.	583.	739.	784.	574.	547.	1361.	1163.	862.	742.
MINERAL PROCESSING MACHINERY (718.51)	149.	347.	347.	347.	347.	528.	528.	450.	450.	958.	958.	688.	688.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (719)	1481.	8883.	8452.	7177.	6874.	12584.	11741.	9211.	8631.	23832.	20201.	14475.	12128.
AIR-CONDITIONING MACHINERY (719.12)	124.	214.	209.	155.	151.	232.	219.	175.	168.	435.	373.	269.	228.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	16.	42.	45.	29.	31.	43.	47.	32.	36.	81.	101.	58.	63.
REFRIGERATING EQUIPMENT (719.15)	64.	143.	140.	103.	100.	153.	145.	116.	109.	258.	247.	170.	131.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	286.	395.	366.	253.	246.	371.	391.	280.	269.	697.	590.	432.	367.
PUMPS AND CENTRIFUGES (719.2)	271.	609.	606.	461.	489.	432.	498.	348.	364.	788.	905.	511.	588.
MECHANICAL HANDLING EQUIP (719.3)	342.	679.	661.	498.	476.	746.	784.	599.	520.	1412.	1288.	878.	737.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	4.	8.	8.	8.	8.	12.	12.	10.	10.	21.	21.	15.	15.
POWERED-TOOLS, OTHER (719.5)	42.	77.	77.	49.	49.	46.	45.	37.	36.	84.	74.	55.	48.

PACKAGING MACHINERY (719.62)	12.	27.	26.	18.	18.	25.	23.	19.	18.	47.	48.	29.	25.
WEIGHING MACHINERY (719.63)	4.	9.	9.	6.	6.	10.	9.	7.	7.	18.	16.	11.	9.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 69)	22.	49.	44.	27.	27.	29.	28.	23.	22.	93.	47.	34.	30.
BALL, ROLLER BEARINGS (719.7)	4.	6.	6.	5.	4.	7.	6.	5.	5.	12.	11.	8.	6.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	351.	783.	783.	783.	783.	1084.	1084.	988.	988.	1922.	1922.	1388.	1388.
ELECTRICAL POWER MACHINERY (722)	980.	1716.	1716.	1716.	1716.	2621.	2621.	2233.	2233.	4765.	4765.	3417.	3417.
POWER TRANSFORMING MACHINERY (722.1)	633.	1219.	1219.	1219.	1219.	1897.	1897.	1582.	1582.	3377.	3377.	2422.	2422.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	323.	584.	584.	584.	584.	889.	889.	798.	798.	1814.	1814.	1158.	1158.
INSULATED WIRE AND CABLE (723.1)	288.	521.	521.	521.	521.	794.	794.	677.	677.	1441.	1441.	1034.	1034.
TELECOMMUNICATIONS APPARATUS (724)	951.	891.	889.	647.	629.	963.	911.	727.	687.	1885.	1546.	1118.	947.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	118.	242.	242.	242.	242.	369.	369.	312.	312.	668.	668.	474.	474.
MEDICAL APPARATUS (726)	8.	29.	29.	29.	29.	38.	38.	32.	32.	67.	67.	49.	49.
ELECTRICAL MACHINERY OTHER (729)	203.	349.	339.	297.	298.	388.	369.	292.	276.	722.	617.	446.	370.
BATTERIES AND ACCUMULATORS (729.1)	24.	42.	41.	32.	31.	49.	46.	37.	35.	98.	77.	55.	47.
ELECTRIC LAMPS (729.2)	10.	18.	18.	18.	18.	27.	27.	23.	23.	48.	48.	34.	34.
VALVES, TUBES, ETC. (729.3)	2.	4.	4.	4.	4.	9.	9.	4.	4.	9.	8.	6.	9.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	23.	40.	39.	32.	30.	49.	46.	37.	35.	98.	76.	55.	47.
MEASURING APPARATUS (729.5)	70.	162.	158.	111.	108.	158.	149.	119.	113.	294.	256.	189.	158.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	10.	16.	16.	11.	11.	17.	16.	12.	12.	32.	27.	20.	17.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	17.	29.	29.	22.	21.	33.	31.	25.	24.	61.	53.	38.	32.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	4.	9.	9.	6.	6.	8.	8.	6.	6.	15.	13.	9.	8.
ELECTRIC CONDENSORS (729.95)	2.	3.	3.	2.	2.	3.	3.	3.	2.	7.	6.	4.	3.
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	41.	111.	136.	86.	107.	147.	187.	108.	138.	284.	457.	172.	283.
RAILWAY VEHICLES (731)	21.	39.	34.	27.	26.	41.	39.	31.	29.	76.	67.	48.	41.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)													
PASSENGERS RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT RAILWAY, TRAMWAY CARS (731.6)													
ROAD MOTOR VEHICLES (732)	2023.	4803.	3888.	2991.	2898.	4631.	4378.	3475.	3275.	8782.	7632.	5358.	4929.
PASSENGER MOTOR CARS (732.1)	595.	1114.	1582.	837.	811.	1381.	1227.	976.	928.	2443.	2886.	1583.	1278.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	1191.	2513.	2439.	1877.	1818.	2922.	2798.	2189.	2083.	5581.	4697.	3384.	2868.
MOTOR CYCLES (732.9)	16.	24.	23.	18.	17.	26.	24.	20.	19.	47.	40.	29.	25.
ROAD VEHICLES OTHER THAN MOTOR (733)	122.	249.	242.	188.	175.	276.	248.	207.	195.	523.	448.	322.	273.
CYCLES (733.1)	5.	8.	8.	6.	6.	9.	8.	7.	6.	17.	14.	10.	9.
AIRCRAFT (734)	386.	728.	785.	947.	538.	634.	788.	629.	593.	1551.	1326.	997.	818.
SHIPS AND BOATS (735)	271.	538.	516.	381.	378.	584.	551.	437.	412.	1111.	958.	684.	579.
MANUFACTURES OF METALS (69)	1590.	2181.	2176.	1288.	1274.	1148.	1116.	959.	933.	1977.	1779.	1338.	1189.

SOURCE: ECONOMETRIC RESEARCH LTD.

MOROCCO

TABLE: 4.6 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	1472.	1577.	1577.	1248.	1248.	2074.	2074.	1429.	1429.	3462.	3462.	1820.	1820.
TOTAL MACHINERY NON-ELECTRIC (71)	562.	588.	588.	467.	467.	769.	769.	539.	539.	1256.	1256.	678.	678.
TOTAL ELECTRICAL MACHINERY (72)	276.	255.	255.	284.	284.	329.	329.	231.	231.	533.	533.	288.	288.
TOTAL TRANSPORT EQUIPMENT (73)	638.	632.	632.	499.	499.	838.	838.	579.	579.	1379.	1379.	739.	739.
POWER GENERATING MACHINERY (711)	91.	91.	91.	72.	72.	122.	122.	84.	84.	202.	202.	108.	108.
STEAM ENGINES (711.1, 2, 3)	9.	31.	31.	24.	24.	41.	41.	28.	28.	78.	78.	37.	37.
AIR CRAFT ENGINES (711.4)	3.	7.	7.	5.	5.	9.	9.	6.	6.	14.	14.	8.	8.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	29.	42.	42.	34.	34.	56.	56.	39.	39.	92.	92.	49.	49.
GAS TURBINES (711.6)	18.	11.	11.	8.	8.	15.	15.	10.	10.	25.	25.	13.	13.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	41.	74.	74.	58.	58.	99.	99.	68.	68.	168.	168.	88.	88.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	13.	12.	12.	10.	10.	16.	16.	11.	11.	25.	25.	14.	14.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	26.	59.	59.	46.	46.	79.	79.	54.	54.	132.	132.	70.	70.
OFFICE MACHINERY (714)	15.	15.	14.	9.	8.	23.	19.	10.	9.	33.	29.	13.	11.
TYPEWRITERS (714.1)	3.	4.	4.	3.	3.	5.	5.	3.	3.	8.	8.	4.	4.
CALCULATING MACHINERY (714.2)	2.	3.	3.	3.	3.	4.	4.	3.	3.	6.	6.	3.	3.
STATISTICAL MACHINERY (714.3)	6.	8.	8.	6.	6.	10.	10.	7.	7.	16.	16.	9.	9.
METAL WORKING MACHINERY (715)	20.	19.	19.	15.	15.	25.	25.	17.	17.	42.	42.	22.	22.
MACHINE TOOLS (715.1)	10.	18.	18.	14.	14.	23.	23.	16.	16.	39.	39.	21.	21.
TEXTILE AND LEATHER MACHINERY (717)	63.	78.	78.	68.	68.	99.	99.	69.	69.	160.	160.	88.	88.
TEXTILE MACHINERY (717.1)	34.	69.	69.	55.	55.	89.	89.	62.	62.	145.	145.	78.	78.
SEWING MACHINERY (717.3)	4.	6.	6.	4.	4.	7.	7.	5.	5.	12.	12.	6.	6.
SPECIAL INDUSTRIAL MACHINERY (718)	134.	97.	97.	77.	77.	128.	128.	88.	88.	205.	205.	111.	111.
PAPER AND PULP MACHINERY (718.1)	8.	3.	3.	3.	3.	4.	4.	3.	3.	5.	5.	3.	3.
PRINTING MACHINERY (718.2)	5.	6.	6.	5.	6.	8.	8.	5.	5.	12.	12.	7.	7.
FOOD PROCESSING MACHINERY (718.3)	7.	15.	15.	12.	12.	19.	19.	13.	13.	30.	30.	16.	16.
CONSTRUCTION, MINING MACHINERY (718.4)	73.	42.	42.	34.	34.	55.	55.	38.	38.	90.	90.	48.	48.
MINERAL PROCESSING MACHINERY (718.51)	39.	38.	38.	24.	24.	48.	48.	28.	28.	67.	67.	36.	36.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (7.9)	268.	279.	279.	221.	221.	367.	367.	295.	295.	601.	601.	323.	323.
AIR-CONDITIONING MACHINERY (719.1..2)	1.	1.	1.	1.	1.	2.	2.	1.	1.	3.	2.	1.	1.
INDUSTRIAL FURNACES, STOKERS, OVENS (719.13..14)	11.	7.	7.	4.	3.	10.	9.	5.	4.	17.	15.	6.	5.
REFRIGERATING EQUIPMENT (719.15)	6.	6.	6.	5.	5.	8.	8.	6.	6.	13.	13.	7.	7.
OTHER HEATING, COOLING EQUIPMENT (719.11..19)	35.	9.	9.	6.	5.	11.	10.	6.	6.	17.	15.	7.	6.
PUMPS AND CENTRIFUGES (719.2)	45.	33.	31.	18.	16.	44.	41.	21.	20.	73.	65.	28.	24.
MECHANICAL HANDLING EQUIP (719.3)	54.	55.	55.	43.	43.	72.	72.	50.	50.	119.	119.	64.	64.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	3.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	1.	1.
POWERED-TOOLS, OTHER (719.5)	11.	16.	16.	12.	12.	21.	21.	14.	14.	34.	34.	18.	18.

PACKAGING MACHINERY (719.62)	11.	11.	11.	9.	9.	14.	14.	10.	10.	23.	23.	13.	13.
WEIGHING MACHINERY (719.63)	2.	2.	2.	2.	2.	3.	3.	2.	2.	5.	5.	3.	3.
SPRAYING, VENDING, OTHER MACHINERY (719.64, 66, 69, 10)	4.	4.	4.	3.	3.	5.	5.	3.	3.	7.	7.	4.	4.
BALL, ROLLER BEARINGS (719.7)	4.	6.	6.	5.	5.	8.	8.	5.	5.	12.	12.	7.	7.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	64.	1.	98.	76.	76.	127.	127.	88.	88.	208.	208.	112.	112.
ELECTRICAL POWER MACHINERY (722)	78.	44.	44.	37.	37.	92.	92.	38.	38.	77.	77.	43.	43.
POWER TRANSFORMING MACHINERY (722.1)	38.	13.	13.	11.	11.	13.	13.	9.	9.	14.	14.	10.	10.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	17.	21.	21.	17.	17.	27.	27.	19.	19.	43.	43.	24.	24.
INSULATED WIRE AND CABLE (723.1)	15.	17.	17.	14.	14.	22.	22.	16.	16.	38.	38.	19.	19.
TELECOMMUNICATIONS APPARATUS (724)	126.	118.	118.	88.	88.	145.	145.	108.	108.	248.	248.	129.	129.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	9.	8.	8.	7.	7.	11.	11.	8.	8.	18.	18.	9.	9.
MEDICAL APPARATUS (726)	4.	4.	4.	3.	3.	5.	5.	3.	3.	8.	8.	4.	4.
ELECTRICAL MACHINERY OTHER (729)	42.	59.	59.	47.	47.	78.	78.	54.	54.	128.	128.	69.	69.
BATTERIES AND ACCUMULATORS (729.1)	6.	7.	7.	5.	5.	9.	9.	6.	6.	14.	14.	8.	8.
ELECTRIC LAMPS (729.2)	4.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	6.	6.
VALVES, TUBES, ETC. (729.3)	3.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	6.	6.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	4.	7.	7.	6.	6.	9.	9.	6.	6.	14.	14.	8.	8.
MEASURING APPARATUS (729.5)	11.	11.	11.	9.	9.	14.	14.	10.	10.	23.	23.	12.	12.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.	0.	0.
ELECTRIC FURNACES (729.92)	4.	1.	1.	1.	1.	2.	1.	1.	1.	2.	2.	1.	1.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	1.	2.	2.	1.	1.	3.	3.	1.	1.	5.	4.	2.	2.
ELECTRIC CONDENSORS (729.95)	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	3.	2.	2.	1.	1.	2.	2.	2.	2.	4.	4.	2.	2.
RAILWAY VEHICLES (731)	35.	47.	47.	36.	36.	63.	63.	43.	43.	109.	109.	56.	56.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)	1.	5.	5.	4.	4.	6.	6.	4.	4.	10.	10.	9.	9.
PASSENGERS) RAILWAY, TRAMWAY CARS (731.4, 5)	1.	11.	11.	9.	9.	15.	15.	10.	10.	26.	26.	14.	14.
FREIGHT) RAILWAY, TRAMWAY CARS (731.6)	1.	15.	15.	11.	11.	20.	20.	14.	14.	34.	34.	18.	18.
ROAD MOTOR VEHICLES (732)	324.	239.	228.	132.	121.	386.	254.	152.	140.	499.	444.	199.	171.
PASSENGER MOTOR CARS (732.1)	91.	112.	112.	98.	98.	143.	143.	101.	101.	229.	229.	124.	124.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	152.	173.	173.	139.	139.	231.	231.	159.	159.	384.	384.	209.	209.
MOTOR CYCLES (732.9)	19.	27.	27.	22.	22.	36.	36.	25.	25.	58.	58.	31.	31.
ROAD VEHICLES OTHER THAN MOTOR (733)	3.	10.	10.	8.	8.	13.	13.	9.	9.	21.	21.	11.	11.
CYCLES (733.1)	2.	2.	2.	2.	2.	2.	2.	2.	2.	4.	4.	2.	2.
AIRCRAFT (734)	77.	74.	74.	58.	58.	98.	98.	68.	68.	163.	163.	87.	87.
SHIPS AND BOATS (735)	165.	98.	98.	78.	78.	122.	122.	83.	83.	285.	285.	109.	109.
MANUFACTURES OF METALS (69)	84.	102.	102.	82.	82.	138.	138.	92.	92.	289.	289.	113.	113.

SOURCE: ECONOMETRIC RESEARCH LTD.

TUNISIA

TABLE 4.7 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	(ACTUAL VALUES)	HT	HD	LT	LD	HT	HD	LT	LD	HT	HD	LT	LD
TOTAL ENGINEERING PRODUCTS (7)	794.	1015.	1015.	881.	881.	1362.	1362.	948.	948.	2348.	2348.	1241.	1241.
TOTAL MACHINERY NON-ELECTRIC (71)	357.	488.	488.	384.	384.	653.	653.	451.	451.	1124.	1124.	595.	595.
TOTAL ELECTRICAL MACHINERY (72)	186.	205.	205.	162.	162.	274.	274.	190.	190.	473.	473.	249.	249.
TOTAL TRANSPORT EQUIPMENT (73)	251.	323.	323.	299.	299.	435.	435.	308.	308.	751.	751.	397.	397.
POWER GENERATING MACHINERY (711)	58.	58.	44.	30.	26.	68.	57.	34.	30.	109.	90.	42.	39.
STEAM ENGINES (711.1, 2, 3)	4.	2.	2.	2.	1.	3.	2.	2.	1.	4.	3.	3.	1.
AIR CRAFT ENGINES (711.4)	4.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	1.	1.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	21.	29.	29.	23.	23.	38.	38.	26.	26.	69.	68.	34.	34.
GAS TURBINES (711.8)	19.	13.	11.	7.	5.	18.	16.	9.	7.	33.	27.	12.	10.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	34.	56.	56.	44.	44.	79.	79.	52.	52.	129.	129.	68.	68.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1-.2)	9.	12.	13.	10.	10.	17.	17.	12.	12.	28.	28.	19.	19.
DAIRY FARM EQUIPMENT (712.3)	0.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
TRACTORS (712.5)	22.	37.	37.	29.	29.	51.	51.	35.	35.	87.	87.	48.	48.
OFFICE MACHINERY (714)	5.	13.	13.	10.	10.	17.	17.	12.	12.	30.	30.	16.	16.
TYPEWRITERS (714.1)	1.	2.	2.	1.	1.	2.	2.	2.	2.	4.	4.	2.	2.
CALCULATING MACHINERY (714.2)	1.	3.	3.	2.	2.	3.	3.	2.	2.	5.	5.	3.	3.
STATISTICAL MACHINERY (714.3)	2.	6.	6.	5.	5.	6.	6.	5.	5.	14.	14.	7.	7.
METAL WORKING MACHINERY (715)	11.	17.	17.	13.	13.	22.	22.	15.	15.	37.	37.	20.	20.
MACHINE TOOLS (715.1)	9.	12.	12.	9.	9.	15.	15.	11.	11.	25.	25.	14.	14.
TEXTILE AND LEATHER MACHINERY (717)	27.	39.	39.	31.	31.	52.	52.	36.	36.	88.	88.	47.	47.
TEXTILE MACHINERY (717.1)	18.	28.	28.	21.	21.	34.	34.	24.	24.	57.	57.	30.	30.
SEWING MACHINERY (717.3)	6.	10.	10.	8.	8.	14.	14.	10.	10.	24.	24.	13.	13.
SPECIAL INDUSTRIAL MACHINERY (718)	77.	98.	98.	71.	71.	122.	122.	84.	84.	212.	212.	112.	112.
PAPER AND PULP MACHINERY (718.1)	4.	1.	2.	1.	1.	1.	3.	1.	1.	2.	5.	1.	2.
PRINTING MACHINERY (718.2)	4.	6.	6.	5.	5.	8.	8.	5.	5.	13.	13.	7.	7.
FOOD PROCESSING MACHINERY (718.3)	10.	8.	8.	6.	6.	10.	10.	7.	7.	17.	17.	9.	9.
CONSTRUCTION, MINING MACHINERY (718.4)	26.	48.	48.	38.	38.	65.	65.	45.	45.	113.	113.	58.	58.
MINERAL PROCESSING MACHINERY (718.51)	32.	25.	25.	20.	20.	34.	34.	24.	24.	60.	60.	32.	32.
GLASS WORKING MACHINERY (718.52)	0.	2.	2.	1.	1.	2.	2.	1.	1.	4.	4.	2.	2.
OTHER SPECIAL MACHINERY (719)	194.	221.	221.	175.	175.	297.	297.	209.	209.	512.	512.	271.	271.
AIR-CONDITIONING MACHINERY (719.12)	2.	3.	3.	3.	3.	4.	4.	3.	3.	7.	7.	4.	4.
INDUSTRIAL FURNACES, STOVES, OVENS (719.13,.14)	6.	7.	7.	6.	6.	10.	10.	7.	7.	16.	15.	9.	9.
REFRIGERATING EQUIPMENT (719.15)	3.	3.	3.	2.	2.	4.	4.	2.	2.	8.	6.	3.	2.
OTHER HEATING, COOLING EQUIPMENT (719.11,.19)	11.	19.	19.	15.	15.	25.	25.	17.	17.	43.	42.	23.	23.
PUMPS AND CENTRIFUGES (719.2)	30.	26.	23.	15.	13.	34.	30.	17.	15.	58.	48.	23.	18.
MECHANICAL HANDLING EQUIP (719.3)	39.	49.	49.	38.	38.	66.	66.	45.	45.	114.	114.	60.	60.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	1.	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.	0.	0.
POWERED-TOOLS, OTHER (719.5)	6.	9.	9.	7.	7.	12.	12.	8.	8.	21.	21.	11.	11.

PACKAGING MACHINERY (719.62)	7.	10.	10.	8.	8.	13.	13.	9.	9.	23.	23.	12.	12.
WEIGHING MACHINERY (719.63)	1.	2.	2.	2.	2.	3.	3.	2.	2.	6.	6.	3.	3.
SPRAYING, VENDING, OTHER MACHINERY (719.64, 66, 68, 69)	3.	4.	4.	3.	3.	8.	8.	4.	4.	10.	10.	5.	5.
BALL-ROLLER BEARINGS (719.7)	3.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	6.	6.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	43.	66.	66.	52.	52.	88.	88.	61.	61.	152.	152.	81.	81.
ELECTRICAL POWER MACHINERY (722)	45.	56.	56.	43.	43.	72.	72.	50.	50.	124.	124.	66.	66.
POWER TRANSFORMING MACHINERY (722.1)	21.	24.	24.	19.	19.	32.	32.	22.	22.	55.	55.	29.	29.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	20.	23.	23.	18.	18.	30.	30.	21.	21.	51.	51.	27.	27.
INSULATED WIRE AND CABLE (723.1)	19.	20.	20.	16.	16.	27.	27.	19.	19.	46.	46.	24.	24.
TELECOMMUNICATIONS APPARATUS (724)	36.	69.	69.	54.	54.	92.	92.	64.	64.	158.	158.	84.	84.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	3.	10.	10.	8.	8.	13.	13.	9.	9.	22.	22.	12.	12.
MEDICAL APPARATUS (726)	2.	3.	3.	3.	3.	5.	5.	3.	3.	8.	8.	4.	4.
ELECTRICAL MACHINERY OTHER (729)	33.	45.	45.	35.	35.	60.	60.	41.	41.	102.	102.	54.	54.
BATTERIES AND ACCUMULATORS (729.1)	4.	8.	8.	6.	6.	10.	10.	7.	7.	17.	17.	9.	9.
ELECTRIC LAMPS (729.2)	2.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	2.	2.
VALVES, TUBES, ETC. (729.3)	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	5.	8.	8.	7.	7.	11.	11.	8.	8.	19.	19.	10.	10.
MEASURING APPARATUS (729.5)	6.	12.	12.	10.	10.	17.	17.	12.	12.	29.	29.	15.	15.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	1.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	3.	3.	2.	2.	1.	4.	3.	2.	2.	6.	5.	2.	2.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	2.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
ELECTRIC CONDENSORS (729.95)	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	3.	2.	2.	1.	1.	2.	2.	1.	1.	4.	4.	2.	2.
RAILWAY VEHICLES (731)	25.	15.	13.	9.	7.	21.	18.	10.	9.	36.	29.	14.	11.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)													
PASSENGER, RAILWAY, TRAMWAY CARS (731.4, 5)	14.	4.	4.	2.	2.	6.	5.	3.	2.	11.	9.	4.	3.
FREIGHT, RAILWAY, TRAMWAY CARS (731.6)	3.	15.	15.	12.	12.	21.	21.	14.	14.	37.	37.	19.	19.
ROAD MOTOR VEHICLES (732)	120.	185.	185.	146.	146.	248.	248.	171.	171.	426.	426.	228.	228.
PASSENGER MOTOR CARS (732.1)	24.	27.	27.	22.	22.	36.	36.	25.	25.	61.	61.	32.	32.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	56.	89.	89.	70.	70.	120.	120.	82.	82.	207.	207.	109.	109.
MOTOR CYCLES (732.9)	2.	6.	6.	4.	4.	8.	8.	5.	5.	13.	13.	7.	7.
ROAD VEHICLES OTHER THAN MOTOR (733)	6.	11.	11.	9.	9.	15.	15.	10.	10.	25.	25.	13.	13.
CYCLES (733.1)	2.	2.	2.	2.	2.	3.	3.	2.	2.	6.	6.	3.	3.
AIRCRAFT (734)	92.	23.	21.	14.	12.	31.	27.	16.	14.	53.	44.	21.	17.
SHIPS AND BOATS (735)	48.	25.	23.	15.	13.	34.	31.	17.	15.	60.	58.	24.	19.
MANUFACTURES OF METALS (69)	71.	88.	88.	70.	70.	118.	118.	82.	82.	204.	204.	108.	108.

SOURCE: ECONOMETRIC RESEARCH LTD.

EGYPT

TABLE: 4.8 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUE	HT	HD	LT	LD	HT	HD	LT	LD	HT	HD	LT	LD
TOTAL ENGINEERING PRODUCTS (7)	2387.	3747.	3747.	3121.	3121.	4838.	4838.	3667.	3667.	7914.	7914.	4867.	4867.
TOTAL MACHINERY NON-ELECTRIC (71)	962.	1718.	1718.	1423.	1423.	2234.	2234.	1679.	1679.	3627.	3627.	2228.	2228.
TOTAL ELECTRICAL MACHINERY (72)	531.	821.	821.	678.	678.	1087.	1087.	811.	811.	1787.	1787.	1089.	1089.
TOTAL TRANSPORT EQUIPMENT (73)	738.	328.	285.	248.	213.	344.	298.	229.	198.	481.	392.	234.	186.
POWER GENERATING MACHINERY (711)	148.	289.	289.	171.	171.	287.	287.	281.	281.	433.	433.	269.	269.
STEAM ENGINES (711.1, 2, 3)	36.	11.	9.	7.	9.	11.	9.	6.	9.	12.	9.	5.	6.
AIR CRAFT ENGINES (711.4)	26.	48.	48.	38.	38.	84.	84.	48.	48.	187.	187.	68.	68.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	56.	120.	120.	108.	108.	198.	198.	117.	117.	298.	298.	194.	194.
GAS TURBINES (711.6)	11.	7.	7.	6.	6.	9.	9.	7.	7.	19.	19.	9.	9.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	47.	57.	57.	48.	48.	74.	74.	58.	58.	128.	128.	74.	74.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1+.2)	9.	9.	9.	6.	6.	6.	6.	9.	9.	10.	10.	6.	6.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	39.	58.	58.	48.	48.	74.	74.	59.	59.	122.	122.	74.	74.
OFFICE MACHINERY (714)	19.	33.	33.	27.	27.	43.	43.	32.	32.	69.	69.	42.	42.
TYPEWRITERS (714.1)	2.	5.	5.	5.	5.	7.	7.	5.	5.	12.	12.	7.	7.
CALCULATING MACHINERY (714.2)	3.	6.	6.	5.	5.	7.	7.	6.	6.	12.	12.	7.	7.
STATISTICAL MACHINERY (714.3)	9.	8.	7.	9.	6.	11.	9.	6.	9.	19.	19.	9.	7.
METAL WORKING MACHINERY (715)	53.	48.	88.	34.	66.	49.	107.	31.	78.	55.	187.	28.	98.
MACHINE TOOLS (715.1)	41.	98.	98.	79.	79.	127.	127.	95.	95.	209.	209.	127.	127.
TEXTILE AND LEATHER MACHINERY (717)	104.	294.	294.	243.	243.	398.	398.	291.	291.	642.	642.	391.	391.
TEXTILE MACHINERY (717.1)	163.	272.	272.	229.	229.	361.	361.	269.	269.	592.	592.	361.	361.
SEWING MACHINERY (717.3)	9.	18.	18.	8.	8.	13.	13.	9.	9.	31.	31.	13.	13.
SPECIAL INDUSTRIAL MACHINERY (718)	169.	282.	282.	233.	233.	373.	373.	278.	278.	613.	613.	374.	374.
PAPER AND PULP MACHINERY (718.1)	7.	17.	17.	14.	14.	22.	22.	18.	18.	36.	36.	22.	23.
PRINTING MACHINERY (718.2)	17.	38.	38.	24.	24.	39.	39.	29.	29.	65.	65.	48.	48.
FOOD PROCESSING MACHINERY (718.3)	17.	11.	11.	18.	18.	14.	14.	11.	11.	22.	22.	14.	14.
CONSTRUCTION, MINING MACHINERY (718.4)	88.	95.	88.	72.	64.	138.	111.	68.	72.	224.	179.	115.	89.
MINERAL PROCESSING MACHINERY (718.51)	31.	38.	34.	29.	29.	52.	48.	34.	29.	91.	71.	47.	38.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (719)	457.	479.	429.	361.	323.	638.	549.	422.	361.	1088.	891.	568.	434.
AIR-CONDITIONING MACHINERY (719.12)	6.	6.	6.	5.	5.	8.	8.	6.	6.	14.	14.	8.	8.
INDUSTRIAL FURNACES, OVENS (719.13+.14)	19.	21.	21.	18.	18.	29.	29.	21.	21.	48.	48.	29.	29.
REFRIGERATING EQUIPMENT (719.15)	13.	17.	17.	14.	14.	23.	23.	17.	17.	38.	38.	23.	23.
OTHER HEATING, COOLING EQUIPMENT (719.11+.19)	40.	58.	58.	49.	48.	73.	73.	54.	54.	121.	121.	74.	74.
PUMPS AND CENTRIFUGES (719.2)	108.	184.	95.	78.	69.	142.	121.	98.	79.	246.	191.	127.	97.
MECHANICAL HANDLING EQUIP (719.3)	83.	158.	158.	124.	124.	288.	288.	149.	149.	331.	331.	201.	201.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	2.	3.	3.	3.	3.	5.	5.	3.	3.	6.	6.	5.	5.
POWER HAND-TOOLS, OTHER (719.5)	14.	17.	18.	13.	11.	24.	20.	19.	12.	42.	33.	21.	18.

PACKAGING MACHINERY (719.62)	12.	36.	36.	29.	29.	48.	48.	39.	39.	79.	79.	48.	48.
WEIGHING MACHINERY (719.63)	4.	7.	7.	5.	5.	9.	9.	7.	7.	15.	15.	9.	9.
SPRAYING, VENDING OTHER MACHINERY (719.61, 64, 65, 56)	3.	22.	22.	18.	18.	30.	30.	22.	22.	50.	50.	30.	30.
BALL, ROLLER BEARINGS (719.7)	13.	14.	14.	11.	11.	18.	18.	13.	13.	29.	29.	18.	18.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	139.	252.	252.	207.	207.	337.	337.	250.	250.	560.	560.	340.	340.
ELECTRICAL POWER MACHINERY (722)	150.	251.	251.	207.	207.	334.	334.	249.	249.	553.	553.	336.	336.
POWER TRANSFORMING MACHINERY (722.1)	82.	152.	152.	125.	125.	203.	203.	151.	151.	337.	337.	205.	205.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	56.	72.	72.	58.	60.	94.	94.	78.	70.	153.	153.	93.	93.
INSULATED WIRE AND CABLE (723.1)	51.	65.	65.	54.	54.	85.	85.	64.	64.	139.	139.	85.	85.
TELECOMMUNICATIONS APPARATUS (724)	191.	247.	247.	205.	205.	324.	324.	242.	242.	520.	520.	323.	323.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	14.	23.	23.	19.	19.	31.	31.	23.	23.	52.	52.	31.	31.
MEDICAL APPARATUS (726)	4.	5.	4.	3.	3.	7.	6.	4.	3.	13.	10.	6.	5.
ELECTRICAL MACHINERY OTHER (729)	104.	180.	180.	149.	149.	239.	239.	178.	178.	393.	393.	240.	240.
BATTERIES AND ACCUMULATORS (729.1)	9.	13.	13.	11.	11.	18.	18.	13.	13.	29.	29.	18.	18.
ELECTRIC LAMPS (729.2)	5.	8.	8.	6.	6.	10.	10.	8.	8.	17.	17.	11.	11.
VALVES, TUBES, ETC. (729.3)	5.	4.	4.	4.	4.	5.	5.	4.	4.	8.	8.	5.	5.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	13.	15.	15.	13.	13.	21.	21.	15.	15.	34.	34.	21.	21.
MEASURING APPARATUS (729.5)	26.	57.	57.	47.	47.	77.	77.	57.	57.	127.	127.	77.	77.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	2.	2.	1.	1.	1.	2.	2.	1.	1.	4.	3.	2.	2.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)	0.	1.	1.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
ELECTRIC FURNACES (729.92)	9.	22.	22.	18.	18.	30.	30.	22.	22.	49.	49.	30.	30.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	2.	11.	11.	9.	9.	14.	14.	11.	11.	24.	24.	15.	15.
ELECTRIC CONDENSORS (729.95)	0.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	3.	3.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	29.	21.	19.	16.	14.	24.	20.	15.	13.	32.	25.	17.	13.
RAILWAY VEHICLES (731)	95.	98.	98.	82.	82.	127.	127.	96.	96.	206.	206.	126.	126.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)	39.	46.	46.	37.	37.	61.	61.	45.	45.	101.	101.	62.	62.
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)	36.	12.	11.	9.	8.	13.	11.	9.	8.	18.	14.	9.	7.
FREIGHT, RAILWAY, TRAMWAY CARS (731.6)													
ROAD MOTOR VEHICLES (732)	441.	631.	631.	527.	527.	815.	815.	614.	614.	1312.	1312.	805.	805.
PASSENGER MOTOR CARS (732.1)	192.	174.	174.	144.	144.	238.	238.	172.	172.	377.	377.	238.	238.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	198.	234.	234.	198.	198.	293.	293.	224.	224.	459.	459.	284.	284.
MOTOR CYCLES (732.9)	7.	15.	15.	13.	13.	20.	20.	15.	15.	34.	34.	21.	21.
ROAD VEHICLES OTHER THAN MOTOR (733)	15.	41.	41.	34.	34.	54.	54.	40.	40.	89.	89.	54.	54.
CYCLES (733.1)	2.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	7.	7.
AIRCRAFT (734)	54.	59.	55.	49.	46.	56.	51.	42.	39.	63.	51.	36.	30.
SHIPS AND BOATS (735)	124.	272.	272.	222.	222.	369.	369.	272.	272.	619.	619.	375.	375.
MANUFACTURES OF METALS (69)	260.	162.	144.	121.	106.	223.	190.	146.	123.	391.	304.	201.	154.

SOURCE: ECONOMETRIC RESEARCH LTD.

SUDAN

TABLE: 4.9 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HD	LT	LD	HT	HD	LT	LD	HT	HD	LT	LD
TOTAL ENGINEERING PRODUCTS (7)	538.	887.	887.	712.	712.	1132.	1132.	799.	799.	1773.	1773.	974.	974.
TOTAL MACHINERY NON-ELECTRIC (71)	273.	395.	395.	317.	317.	586.	586.	357.	357.	795.	795.	436.	436.
TOTAL ELECTRICAL MACHINERY (72)	83.	75.	75.	61.	61.	95.	95.	68.	68.	147.	147.	81.	81.
TOTAL TRANSPORT EQUIPMENT (73)	163.	123.	123.	76.	76.	151.	151.	81.	81.	228.	228.	94.	94.
POWER GENERATING MACHINERY (711)	18.	36.	36.	29.	29.	45.	45.	32.	32.	78.	78.	39.	39.
STEAM ENGINES (711.1, 2, 3)													
AIR CRAFT ENGINES (711.4)	1.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	6.	6.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	22.	29.	29.	23.	23.	36.	36.	26.	26.	56.	56.	31.	31.
GAS TURBINES (711.6)													
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	21.	24.	21.	14.	12.	30.	27.	15.	13.	45.	39.	18.	15.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	8.	10.	9.	6.	5.	12.	11.	6.	6.	19.	16.	8.	6.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	11.	13.	12.	8.	7.	17.	15.	8.	8.	25.	22.	10.	8.
OFFICE MACHINERY (714)	2.	4.	4.	3.	3.	5.	5.	3.	3.	7.	7.	4.	4.
TYPEWRITERS (714.1)													
CALCULATING MACHINERY (714.2)	0.	2.	2.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
STATISTICAL MACHINERY (714.3)													
METAL WORKING MACHINERY (715)	4.	6.	6.	5.	5.	7.	7.	5.	5.	12.	12.	6.	6.
MACHINE TOOLS (715.1)	4.	5.	5.	4.	4.	6.	6.	4.	4.	10.	10.	5.	5.
TEXTILE AND LEATHER MACHINERY (717)	38.	85.	85.	68.	68.	118.	118.	77.	77.	175.	175.	96.	96.
TEXTILE MACHINERY (717.1)	36.	79.	79.	63.	63.	102.	102.	72.	72.	163.	163.	89.	89.
SEWING MACHINERY (717.3)													
SPECIAL INDUSTRIAL MACHINERY (718)	85.	89.	89.	71.	71.	115.	115.	81.	81.	181.	181.	99.	99.
PAPER AND PULP MACHINERY (718.1)	0.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	2.	2.
PRINTING MACHINERY (718.2)	3.	3.	3.	3.	3.	4.	4.	3.	3.	6.	6.	3.	3.
FOOD PROCESSING MACHINERY (718.3)	53.	44.	44.	35.	35.	57.	57.	40.	40.	91.	91.	50.	50.
CONSTRUCTION, MINING MACHINERY (718.4)	22.	30.	30.	24.	24.	38.	38.	27.	27.	59.	59.	33.	33.
MINERAL PROCESSING MACHINERY (718.51)	6.	9.	9.	7.	7.	12.	12.	9.	9.	19.	19.	11.	11.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (719)	85.	99.	99.	88.	88.	126.	126.	89.	89.	196.	196.	188.	188.
AIR-CONDITIONING MACHINERY (719.12)	2.	3.	3.	2.	2.	3.	3.	2.	2.	5.	5.	3.	3.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	5.	1.	1.	0.	0.	1.	1.	0.	0.	1.	1.	1.	1.
REFRIGERATING EQUIPMENT (719.15)	3.	6.	6.	5.	5.	8.	8.	6.	6.	12.	12.	7.	7.
OTHER HEATING, COOLING EQUIPMENT (719.11,13)	7.	7.	7.	6.	6.	9.	9.	7.	7.	15.	15.	8.	8.
PUMPS AND CENTRIFUGES (719.2)	26.	19.	20.	12.	13.	22.	24.	12.	14.	32.	36.	13.	15.
MECHANICAL HANDLING EQUIP (719.3)	13.	13.	13.	10.	10.	17.	17.	12.	12.	27.	27.	15.	15.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)													
POWERED-TOOLS, OTHER (719.5)	2.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	2.	2.

PACKAGING MACHINERY (719.62)	1.	3.	3.	2.	2.	4.	4.	3.	3.	6.	6.	3.	3.
WEIGHING MACHINERY (719.63)	0.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 66)	2.	3.	3.	2.	2.	4.	4.	3.	3.	6.	6.	3.	3.
BALL, ROLLER BEARINGS (719.7)	2.	3.	3.	2.	2.	4.	4.	3.	3.	5.	5.	3.	3.
APPLIANCES, PARTS AND ACCESSORIES, OTHER: (719.8, 9)	23.	37.	37.	30.	30.	48.	48.	34.	34.	79.	79.	41.	41.
ELECTRICAL POWER MACHINERY (722)	28.	36.	36.	29.	29.	46.	46.	32.	32.	73.	73.	40.	40.
POWER TRANSFORMING MACHINERY (722.1)	20.	20.	20.	16.	16.	26.	26.	18.	18.	41.	41.	22.	22.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	5.	6.	6.	5.	5.	8.	8.	6.	6.	13.	13.	7.	7.
INSULATED WIRE AND CABLE (723.1)	4.	6.	6.	5.	5.	8.	8.	6.	6.	13.	13.	7.	7.
TELECOMMUNICATIONS APPARATUS (724)	26.	12.	12.	10.	10.	15.	15.	10.	10.	22.	22.	12.	12.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	2.	3.	3.	2.	2.	4.	4.	3.	3.	5.	5.	3.	3.
MEDICAL APPARATUS (726)	0.	1.	1.	1.	1.	2.	2.	1.	1.	2.	2.	1.	1.
ELECTRICAL MACHINERY OTHER (729)	14.	20.	20.	16.	16.	25.	25.	18.	18.	39.	39.	22.	22.
BATTERIES AND ACCUMULATORS (729.1)	3.	1.	1.	1.	1.	2.	2.	1.	1.	2.	2.	1.	1.
ELECTRIC LAMPS (729.2)	1.	2.	2.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
VALVES, TUBES, ETC. (729.3)													
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	4.	5.	5.	4.	4.	6.	6.	4.	4.	9.	9.	5.	5.
MEASURING APPARATUS (729.5)													
ELECTRO-MECHANICAL HAND TOOLS (729.6)													
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	..	2.	2.	1.	1.	2.	2.	2.	2.	4.	4.	2.	2.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)													
ELECTRIC CONDENSORS (729.95)													
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	0.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
RAILWAY VEHICLES (731)	0.	61.	61.	49.	49.	79.	79.	55.	55.	124.	124.	68.	68.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)	0.	4.	4.	3.	3.	5.	4.	3.	3.	6.	6.	3.	2.
PASSENGERS: RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)	0.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	2.	2.
ROAD MOTOR VEHICLES (732)	145.	230.	230.	185.	185.	291.	291.	206.	206.	454.	454.	250.	250.
PASSENGER MOTOR CARS (732.1)	17.	9.	9.	7.	7.	10.	10.	8.	8.	15.	15.	9.	9.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	87.	145.	145.	115.	115.	186.	186.	131.	131.	293.	293.	161.	161.
MOTOR CYCLES (732.9)													
ROAD VEHICLES OTHER THAN MOTOR (733)													
CYCLES (733.1)													
AIRCRAFT (734)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SHIPS AND BOATS (735)													
MANUFACTURES OF METALS (69)	46.	47.	47.	27.	27.	59.	59.	31.	31.	92.	92.	37.	37.

SOURCE: ECONOMETRIC RESEARCH LTD.

SYRIA

TABLE: 4.10 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

	1977	1985				1990				2000			
PRODUCTS	ACTUAL VALUE	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	1112.	2299.	2299.	1849.	1849.	2998.	2998.	2187.	2187.	4981.	4981.	2918.	2918.
TOTAL MACHINERY NON-ELECTRIC (71)	522.	973.	973.	799.	799.	1288.	1288.	941.	941.	2136.	2136.	1252.	1252.
TOTAL ELECTRICAL MACHINERY (72)	282.	398.	398.	326.	326.	523.	523.	383.	383.	863.	863.	587.	587.
TOTAL TRANSPORT EQUIPMENT (73)	268.	879.	879.	711.	711.	1172.	1172.	891.	891.	1962.	1962.	1146.	1146.
POWER GENERATING MACHINERY (711)	44.	47.	42.	33.	29.	56.	49.	39.	38.	96.	58.	41.	32.
STEAM ENGINES (711.1, 2, 3)	22.	9.	8.	5.	4.	12.	10.	7.	6.	21.	16.	9.	7.
AIR CRAFT ENGINES (711.4)	1.	9.	9.	8.	8.	12.	12.	9.	9.	21.	21.	12.	12.
OTHER INTERNAL COMBUSTION ENGINES (711.3)	13.	31.	27.	20.	17.	40.	34.	23.	19.	65.	51.	30.	23.
GAS TURBINES (711.6)	2.	17.	17.	11.	11.	22.	22.	13.	13.	36.	36.	16.	16.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	31.	99.	99.	77.	77.	127.	127.	92.	92.	212.	212.	124.	124.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	3.	26.	26.	21.	21.	35.	35.	26.	26.	59.	59.	35.	35.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	26.	61.	61.	50.	50.	82.	82.	59.	59.	137.	137.	80.	80.
OFFICE MACHINERY (714)	8.	12.	12.	10.	10.	16.	16.	12.	12.	26.	26.	15.	15.
TYPEWRITERS (714.1)	1.	3.	3.	2.	2.	4.	4.	3.	3.	6.	6.	4.	4.
CALCULATING MACHINERY (714.2)	2.	3.	3.	2.	2.	3.	3.	3.	3.	5.	5.	3.	3.
STATISTICAL MACHINERY (714.3)													
METAL WORKING MACHINERY (715)	29.	17.	40.	10.	33.	23.	65.	12.	39.	38.	139.	17.	67.
MACHINE TOOLS (715.1)	22.	10.	29.	6.	20.	14.	39.	8.	24.	23.	84.	10.	48.
TEXTILE AND LEATHER MACHINERY (717)	78.	48.	129.	30.	90.	62.	174.	35.	104.	100.	367.	46.	176.
TEXTILE MACHINERY (717.1)	70.	41.	111.	26.	77.	53.	150.	30.	90.	87.	316.	39.	152.
SEWING MACHINERY (717.3)	5.	11.	11.	9.	9.	15.	15.	11.	11.	25.	25.	14.	14.
SPECIAL INDUSTRIAL MACHINERY (718)	107.	73.	182.	49.	130.	90.	242.	53.	140.	140.	502.	65.	244.
PAPER AND PULP MACHINERY (718.1)	22.	12.	12.	10.	10.	17.	17.	12.	12.	29.	29.	17.	17.
PRINTING MACHINERY (718.2)	6.	2.	6.	2.	4.	3.	7.	2.	5.	4.	15.	2.	7.
FOOD PROCESSING MACHINERY (718.3)	17.	18.	53.	11.	36.	25.	73.	13.	43.	42.	150.	19.	74.
CONSTRUCTION, MINING MACHINERY (718.4)	46.	76.	76.	63.	63.	99.	99.	73.	73.	161.	161.	95.	95.
MINERAL PROCESSING MACHINERY (718.51)	12.	21.	51.	15.	36.	26.	67.	16.	41.	39.	137.	18.	57.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (718.9)	236.	127.	313.	86.	224.	156.	415.	93.	255.	241.	859.	113.	418.
AIR-CONDITIONING MACHINERY (719.12)	3.	4.	4.	3.	3.	5.	5.	3.	3.	8.	8.	5.	5.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	11.	4.	11.	3.	8.	5.	15.	3.	9.	9.	31.	4.	15.
REFRIGERATING EQUIPMENT (719.15)	4.	2.	4.	1.	3.	2.	5.	1.	3.	3.	9.	1.	4.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	15.	7.	18.	4.	13.	9.	24.	5.	15.	14.	52.	6.	25.
PUMPS AND CENTRIFUGES (719.2)	48.	21.	28.	13.	18.	27.	38.	15.	22.	44.	70.	20.	32.
MECHANICAL HANDLING EQUIP (719.3)	37.	21.	56.	14.	39.	27.	76.	16.	46.	44.	159.	20.	77.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)													
POWERED-TOOLS, OTHER (719.5)	12.	14.	14.	11.	11.	19.	19.	14.	14.	31.	31.	18.	18.

PACKAGING MACHINERY (719.62)	4.	4.	10.	3.	7.	5.	14.	3.	8.	8.	29.	4.	14.
WEIGHING MACHINERY (719.63)	1.	1.	2.	1.	2.	1.	3.	1.	2.	2.	7.	1.	3.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 56)	5.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	6.	6.
BALL, ROLLER BEARINGS (719.7)	2.	2.	5.	2.	4.	3.	7.	2.	4.	4.	14.	2.	7.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	76.	128.	128.	104.	104.	172.	172.	125.	125.	287.	287.	168.	168.
ELECTRICAL POWER MACHINERY (722)	88.	97.	83.	68.	58.	126.	108.	71.	59.	206.	162.	93.	72.
POWER TRANSFORMING MACHINERY (722.1)	56.	59.	51.	37.	31.	76.	65.	43.	36.	123.	97.	56.	43.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	15.	12.	11.	8.	7.	15.	13.	9.	8.	23.	18.	11.	8.
INSULATED WIRE AND CABLE (723.1)	13.	11.	10.	8.	7.	14.	12.	8.	7.	21.	17.	10.	8.
TELECOMMUNICATIONS APPARATUS (724)	47.	109.	109.	89.	89.	145.	145.	106.	106.	241.	241.	141.	141.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	13.	15.	15.	12.	12.	20.	20.	14.	14.	33.	33.	19.	19.
MEDICAL APPARATUS (726)	2.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	3.	3.
ELECTRICAL MACHINERY OTHER (729)	33.	75.	75.	61.	61.	101.	101.	73.	73.	168.	168.	98.	98.
BATTERIES AND ACCUMULATORS (729.1)	1.	3.	3.	3.	3.	4.	4.	3.	3.	7.	7.	4.	4.
ELECTRIC LAMPS (729.2)	1.	2.	2.	1.	1.	2.	2.	2.	2.	3.	3.	2.	2.
VALVES, TUBES, ETC. (729.3)	2.	9.	9.	8.	8.	13.	13.	9.	9.	21.	21.	12.	12.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	4.	7.	7.	5.	5.	9.	9.	6.	6.	14.	14.	8.	8.
MEASURING APPARATUS (729.5)	9.	15.	15.	12.	12.	19.	19.	14.	14.	32.	32.	19.	19.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	1.	2.	2.	2.	2.	3.	3.	2.	2.	5.	5.	3.	3.
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)	6.	4.	10.	2.	7.	5.	14.	3.	8.	8.	29.	4.	14.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)													
ELECTRIC CONDENSORS (729.95)													
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	6.	5.	12.	3.	9.	6.	17.	4.	10.	10.	35.	5.	17.
RAILWAY VEHICLES (731)	5.	42.	42.	34.	34.	57.	57.	41.	41.	96.	96.	56.	56.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)													
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT' RAILWAY, TRAMWAY CARS (731.6)													
ROAD MOTOR VEHICLES (732)	231.	591.	591.	480.	480.	789.	789.	574.	574.	1319.	1319.	771.	771.
PASSENGER MOTOR CARS (732.1)	38.	130.	130.	105.	105.	175.	175.	127.	127.	295.	295.	172.	172.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	139.	332.	332.	270.	270.	445.	445.	323.	323.	745.	745.	435.	435.
MOTOR CYCLES (732.3)	4.	19.	19.	15.	15.	25.	25.	18.	18.	42.	42.	24.	24.
ROAD VEHICLES OTHER THAN MOTOR (733)	8.	28.	28.	23.	23.	37.	37.	27.	27.	62.	62.	36.	36.
CYCLES (733.1)	1.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
AIRCRAFT (734)	17.	150.	170.	127.	145.	146.	164.	118.	131.	119.	142.	86.	97.
SHIPS AND BOATS (735)	4.	12.	12.	10.	10.	16.	16.	12.	12.	27.	27.	16.	16.
MANUFACTURES OF METALS (69)	146.	66.	175.	42.	123.	84.	234.	48.	142.	135.	492.	62.	237.

SOURCE: ECONOMETRIC RESEARCH LTD.

JORDAN

TABLE: 4.11 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	515.	455.	455.	293.	293.	574.	574.	323.	323.	934.	934.	482.	482.
TOTAL MACHINERY NON-ELECTRIC (71)	142.	128.	128.	82.	82.	182.	182.	91.	91.	265.	265.	114.	114.
TOTAL ELECTRICAL MACHINERY (72)	89.	85.	85.	57.	57.	184.	184.	61.	61.	164.	164.	72.	72.
TOTAL TRANSPORT EQUIPMENT (73)	282.	282.	196.	129.	125.	272.	261.	152.	148.	474.	442.	203.	189.
POWER GENERATING MACHINERY (711)	36.	17.	17.	11.	11.	21.	21.	12.	12.	34.	34.	15.	15.
STEAM ENGINES (711.1, 2, 3)	4.	3.	3.	2.	2.	4.	4.	2.	2.	7.	7.	3.	* 3.
AIR CRAFT ENGINES (711.4)													
OTHER INTERNAL COMBUSTION ENGINES (711.5)	13.	10.	10.	6.	6.	12.	12.	7.	7.	28.	28.	8.	8.
GAS TURBINES (711.6)													
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	5.	7.	7.	5.	5.	9.	9.	5.	5.	15.	15.	6.	6.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	1.	1.	1.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
DAIRY FARM EQUIPMENT (712.3)													
TRACTORS (712.5)	2.	4.	4.	3.	3.	6.	6.	3.	3.	9.	9.	4.	4.
OFFICE MACHINERY (714)	3.	2.	2.	1.	1.	2.	2.	1.	1.	4.	3.	2.	1.
TYPEWRITERS (714.1)	0.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
CALCULATING MACHINERY (714.2)	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
STATISTICAL MACHINERY (714.3)													
METAL WORKING MACHINERY (715)	6.	5.	6.	3.	4.	6.	8.	4.	4.	11.	15.	5.	7.
MACHINE TOOLS (715.1)	5.	2.	2.	1.	2.	2.	3.	1.	2.	4.	6.	2.	3.
TEXTILE AND LEATHER MACHINERY (717)	3.	3.	4.	2.	3.	4.	5.	2.	3.	7.	10.	3.	4.
TEXTILE MACHINERY (717.1)	2.	3.	3.	2.	2.	3.	4.	2.	2.	6.	8.	3.	4.
SEWING MACHINERY (717.3)													
SPECIAL INDUSTRIAL MACHINERY (718)	22.	19.	19.	12.	12.	24.	24.	13.	13.	48.	48.	17.	17.
PAPER AND PULP MACHINERY (718.1)													
PRINTING MACHINERY (718.2)	2.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
FOOD PROCESSING MACHINERY (718.3)	2.	4.	4.	3.	3.	6.	6.	4.	4.	11.	11.	6.	6.
CONSTRUCTION, MINING MACHINERY (718.4)	12.	12.	12.	8.	8.	16.	16.	9.	9.	27.	27.	11.	11.
MINERAL PROCESSING MACHINERY (718.51)	5.	4.	4.	2.	3.	5.	6.	3.	3.	9.	11.	4.	5.
GLASS WORKING MACHINERY (718.52)													
OTHER SPECIAL MACHINERY (719)	67.	57.	67.	38.	46.	72.	87.	43.	51.	123.	164.	59.	74.
AIR-CONDITIONING MACHINERY (719.12)	2.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	1.	1.	1.	0.	0.	1.	1.	0.	1.	1.	2.	1.	1.
REFRIGERATING EQUIPMENT (719.15)	2.	2.	2.	1.	1.	2.	2.	1.	1.	4.	4.	2.	2.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	3.	3.	3.	2.	2.	4.	4.	2.	2.	7.	8.	3.	4.
PUMPS AND CENTRIFUGES (719.2)	13.	15.	15.	10.	10.	19.	19.	11.	11.	30.	30.	13.	13.
MECHANICAL HANDLING EQUIP (719.3)	8.	8.	9.	6.	6.	11.	12.	6.	7.	19.	22.	8.	10.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)													
POWERED-TOOLS, OTHER (719.5)													

PACKAGING MACHINERY (719.62)	3.	2.	2.	1.	1.	2.	3.	1.	1.	4.	5.	2.	2.
WEIGHING MACHINERY (719.63)													
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 68)	4.	2.	2.	1.	1.	2.	2.	1.	1.	3.	3.	1.	1.
BALL, ROLLER BEARINGS (719.7)	1.	1.	1.	0.	1.	1.	1.	1.	1.	2.	2.	1.	1.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	21.	48.	48.	38.	38.	66.	66.	46.	46.	118.	118.	64.	64.
ELECTRICAL POWER MACHINERY (722)	24.	28.	28.	13.	13.	25.	25.	14.	14.	41.	41.	18.	18.
POWER TRANSFORMING MACHINERY (722.1)	14.	12.	12.	8.	8.	15.	15.	9.	9.	25.	25.	11.	11.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	10.	7.	7.	5.	5.	8.	8.	5.	5.	13.	13.	6.	6.
INSULATED WIRE AND CABLE (723.1)	10.	7.	7.	4.	4.	8.	8.	5.	5.	12.	12.	5.	5.
TELECOMMUNICATIONS APPARATUS (724)	22.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	11.	19.	19.	15.	15.	26.	26.	18.	18.	46.	46.	29.	29.
MEDICAL APPARATUS (726)	1.	1.	1.	0.	0.	1.	1.	1.	0.	1.	1.	1.	1.
ELECTRICAL MACHINERY OTHER (729)	15.	19.	18.	10.	12.	20.	23.	12.	14.	33.	44.	15.	20.
BATTERIES AND ACCUMULATORS (729.1)	3.	1.	1.	0.	1.	1.	1.	1.	1.	1.	2.	1.	1.
ELECTRIC LAMPS (729.2)													
VALVES, TUBES, ETC. (729.3)	1.	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.	0.	0.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	2.	5.	5.	4.	4.	7.	7.	5.	5.	13.	13.	7.	7.
MEASURING APPARATUS (729.5)	6.	3.	3.	2.	2.	3.	4.	2.	2.	6.	7.	3.	3.
ELECTRO-MECHANICAL HAND TOOLS (729.6)													
ELECTRON AND PROTON ACCELERATORS (729.7)													
ELECTRO-MAGNETIC APPLIANCES (729.91)													
ELECTRIC FURNACES (729.92)													
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)													
ELECTRIC CONDENSORS (729.95)													
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	3.	0.	1.	0.	0.	1.	1.	0.	0.	1.	1.	0.	1.
RAILWAY VEHICLES (731)	2.	14.	14.	11.	11.	19.	19.	13.	13.	35.	35.	19.	19.
STEAM LOCOMOTIVES (731.1)													
ELECTRIC LOCOMOTIVES (731.2)													
LOCOMOTIVES, OTHER (731.3)													
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)													
FREIGHT RAILWAY, TRAMWAY CARS (731.6)													
ROAD MOTOR VEHICLES (732)	140.	160.	155.	134.	100.	215.	207.	122.	117.	374.	358.	162.	151.
PASSENGER MOTOR CARS (732.1)	32.	56.	56.	44.	44.	78.	78.	54.	54.	137.	137.	79.	79.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	65.	48.	46.	30.	29.	65.	63.	36.	35.	115.	108.	49.	46.
MOTOR CYCLES (732.9)	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
ROAD VEHICLES OTHER THAN MOTOR (733)	10.	13.	13.	8.	8.	18.	18.	10.	10.	33.	31.	14.	13.
CYCLES (733.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
AIRCRAFT (734)	110.	33.	32.	21.	21.	44.	43.	25.	24.	76.	71.	33.	30.
SHIPS AND BOATS (735)	4.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	1.	1.
MANUFACTURES OF METALS (69)	63.	82.	82.	51.	51.	106.	106.	58.	58.	177.	177.	75.	75.

SOURCE: ECONOMETRIC RESEARCH LTD.

ARAB OIL PRODUCING COUNTRIES

TABLE: 4.12 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977 ACTUAL VALUES	1985 HT	1985 HO	1985 LT	1985 LO	1990 HT	1990 HO	1990 LT	1990 LO	2000 HT	2000 HO	2000 LT	2000 LO
TOTAL ENGINEERING PRODUCTS (7)	23710.	49592.	51118.	43481.	47881.	65320.	76216.	58754.	64429.	129842.	160768.	101856.	123262.
TOTAL MACHINERY NON-ELECTRIC (71)	9382.	18209.	20667.	17459.	19262.	27416.	30784.	23724.	26108.	54254.	68896.	41217.	50960.
TOTAL ELECTRICAL MACHINERY (72)	5932.	10256.	11509.	9796.	10081.	19410.	17179.	13109.	14481.	30332.	37250.	22409.	27304.
TOTAL TRANSPORT EQUIPMENT (73)	6389.	17939.	17739.	16377.	16222.	21250.	22020.	20205.	19000.	43669.	41716.	32753.	31319.
POWER GENERATING MACHINERY (711)	1273.	2586.	2988.	2217.	2143.	3461.	3312.	2838.	2714.	6029.	6158.	4661.	4384.
STEAM ENGINES (711.1, 2, 3)	291.	542.	523.	462.	449.	745.	711.	611.	583.	1569.	1422.	1127.	1019.
AIR CRAFT ENGINES (711.4)	128.	285.	281.	281.	299.	373.	369.	321.	316.	798.	678.	919.	494.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	471.	1186.	1089.	998.	919.	1489.	1421.	1219.	1170.	2912.	2829.	2097.	1892.
GAS TURBINES (711.6)	362.	588.	589.	584.	489.	756.	725.	628.	596.	1484.	1269.	997.	899.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	414.	842.	838.	882.	799.	1090.	1009.	986.	978.	2083.	2028.	1873.	1631.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1+2)	61.	183.	183.	188.	188.	241.	248.	229.	229.	464.	458.	403.	408.
DAIRY FARM EQUIPMENT (712.3)	4.	8.	8.	8.	9.	11.	11.	11.	11.	22.	22.	21.	21.
TRACTORS (712.5)	279.	526.	523.	498.	495.	586.	677.	611.	604.	1307.	1261.	1029.	999.
OFFICE MACHINERY (714)	146.	292.	290.	298.	289.	417.	419.	379.	374.	791.	779.	619.	609.
TYPEWRITERS (714.1)	30.	79.	69.	63.	63.	92.	98.	81.	79.	188.	178.	136.	129.
CALCULATING MACHINERY (714.2)	29.	72.	71.	67.	66.	99.	93.	83.	82.	182.	172.	148.	132.
STATISTICAL MACHINERY (714.3)	41.	86.	89.	78.	72.	182.	188.	99.	87.	197.	186.	146.	138.
METAL WORKING MACHINERY (715)	258.	848.	997.	789.	987.	1284.	1497.	1099.	1292.	2616.	3492.	1968.	2567.
MACHINE TOOLS (715.1)	238.	554.	639.	522.	584.	842.	956.	738.	818.	1728.	2208.	1325.	1677.
TEXTILE AND LEATHER MACHINERY (717)	261.	422.	513.	399.	465.	619.	756.	529.	628.	1178.	1714.	859.	1239.
TEXTILE MACHINERY (717.1)	162.	321.	382.	301.	349.	460.	598.	402.	464.	879.	1224.	642.	879.
SEWING MACHINERY (717.3)	33.	81.	97.	74.	88.	119.	143.	99.	116.	232.	321.	161.	221.
SPECIAL INDUSTRIAL MACHINERY (718)	1889.	4126.	4697.	3929.	4329.	6182.	6946.	5327.	5808.	12157.	19316.	9118.	11344.
PAPER AND PULP MACHINERY (718.1)	71.	72.	62.	69.	76.	109.	124.	99.	109.	225.	297.	189.	243.
PRINTING MACHINERY (718.2)	56.	178.	214.	164.	193.	264.	319.	219.	258.	516.	711.	362.	495.
FOOD PROCESSING MACHINERY (718.3)	109.	199.	246.	177.	216.	287.	356.	243.	299.	593.	882.	429.	697.
CONSTRUCTION, MINING MACHINERY (718.4)	1164.	2707.	2667.	2306.	2374.	3178.	3136.	2838.	2718.	5899.	5673.	4515.	4254.
MINERAL PROCESSING MACHINERY (718.51)	476.	1602.	2033.	1555.	1844.	2567.	3077.	2151.	2534.	9167.	7276.	3729.	5226.
GLASS WORKING MACHINERY (718.52)	4.	21.	23.	28.	28.	31.	34.	27.	28.	59.	77.	43.	55.
OTHER SPECIAL MACHINERY (719)	5143.	14844.	15497.	12749.	13224.	21663.	22469.	17383.	17734.	43989.	49269.	38827.	38868.
AIR-CONDITIONING MACHINERY (719.12)	387.	1088.	1389.	927.	1116.	1944.	1853.	1229.	1463.	3119.	4204.	2897.	2846.
INDUSTRIAL FURNACES, STOKERS, OVENS (719.13,14)	126.	277.	331.	244.	288.	481.	478.	336.	393.	617.	1116.	595.	888.
REFRIGERATING EQUIPMENT (719.15)	221.	688.	779.	584.	661.	968.	1088.	763.	898.	1897.	2373.	1256.	1981.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	766.	1588.	1862.	1344.	1591.	2282.	2689.	1752.	2018.	4475.	6818.	3118.	4176.
PUMPS AND CENTRIFUGES (719.2)	1817.	1987.	1959.	1583.	1544.	2294.	2237.	1891.	1846.	4477.	4266.	3215.	3849.
MECHANICAL HANDLING EQUIP (719.3)	1097.	2213.	2443.	1938.	2182.	3098.	3397.	2649.	2892.	6446.	7708.	4968.	5969.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	12.	23.	23.	23.	23.	31.	31.	28.	28.	57.	57.	45.	45.
POWERED-TOOLS, OTHER (719.5)	139.	418.	481.	397.	411.	557.	648.	478.	544.	1163.	1534.	888.	1151.

PACKAGING MACHINERY (719.62)	74.	162.	294.	148.	178.	238.	291.	198.	237.	469.	694.	329.	492.
WEIGHING MACHINERY (719.63)	21.	51.	98.	49.	51.	71.	81.	99.	87.	139.	178.	108.	127.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 69, 18)	99.	176.	198.	147.	166.	218.	248.	182.	289.	478.	991.	314.	398.
BALL, ROLLER BEARINGS (719.7)	49.	73.	88.	66.	78.	107.	129.	91.	107.	214.	308.	199.	227.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	1191.	2318.	2332.	2318.	2317.	1299.	3313.	2999.	3082.	6274.	6369.	9839.	5118.
ELECTRICAL POWER MACHINERY (722)	2169.	4179.	4689.	3921.	3843.	5169.	6829.	9176.	9863.	11912.	11301.	8841.	8186.
POWER TRANSFORMING MACHINERY (722.1)	1299.	2618.	2964.	2478.	2429.	1673.	3791.	3297.	3193.	7444.	7894.	9484.	9144.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	774.	1724.	1684.	1999.	1964.	2512.	2448.	2889.	2834.	4838.	4978.	3442.	3299.
INSULATED WIRE AND CABLE (723.1)	711.	1619.	1578.	1497.	1462.	2378.	2313.	1976.	1924.	4637.	4363.	3322.	3121.
TELECOMMUNICATIONS APPARATUS (724)	1489.	3849.	3826.	2884.	2788.	1903.	3898.	3449.	3485.	7338.	7879.	9997.	9388.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	337.	748.	748.	748.	748.	1092.	1092.	949.	949.	1934.	1934.	1487.	1487.
MEDICAL APPARATUS (726)	47.	108.	104.	99.	97.	149.	148.	128.	124.	278.	287.	283.	198.
ELECTRICAL MACHINERY OTHER (729)	716.	1828.	2118.	1889.	1849.	2934.	2947.	2894.	2484.	9841.	6977.	3949.	4891.
BATTERIES AND ACCUMULATORS (729.1)	97.	273.	321.	248.	282.	387.	498.	318.	389.	774.	1839.	932.	712.
ELECTRIC LAMPS (729.2)	32.	103.	117.	97.	107.	151.	172.	127.	142.	292.	382.	288.	268.
VALVES, TUBES, ETC. (729.3)	13.	39.	38.	32.	33.	98.	94.	42.	44.	181.	112.	74.	81.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	98.	191.	190.	183.	181.	298.	247.	224.	222.	464.	498.	383.	394.
MEASURING APPARATUS (729.5)	183.	509.	574.	438.	484.	665.	799.	949.	614.	1316.	1692.	919.	1148.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	27.	54.	59.	48.	58.	70.	72.	61.	63.	139.	148.	101.	104.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	1.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
ELECTRIC FURNACES (729.92)	73.	224.	268.	199.	238.	327.	378.	274.	312.	674.	875.	493.	632.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	11.	29.	28.	24.	24.	36.	39.	38.	29.	72.	67.	53.	58.
ELECTRIC CONDENSORS (729.95)	3.	6.	6.	5.	5.	8.	8.	7.	7.	17.	15.	14.	13.
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	172.	256.	319.	216.	266.	361.	458.	283.	349.	717.	1879.	471.	786.
RAILWAY VEHICLES (731)	153.	239.	238.	238.	238.	318.	308.	287.	289.	597.	548.	478.	469.
STEAM LOCOMOTIVES (731.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	8.	8.	8.	8.	13.	13.	13.	13.	31.	29.	29.	27.
LOCOMOTIVES, OTHER (731.3)	30.	27.	28.	28.	28.	36.	38.	34.	34.	67.	64.	58.	56.
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)	38.	43.	43.	43.	43.	59.	99.	97.	97.	115.	115.	109.	109.
FREIGHT RAILWAY, TRAMWAY CARS (731.6)	48.	65.	65.	63.	63.	88.	87.	88.	88.	168.	154.	137.	133.
ROAD MOTOR VEHICLES (732)	5048.	12627.	12911.	11614.	11922.	16238.	15976.	14232.	14032.	30146.	28876.	22731.	21983.
PASSENGER MOTOR CARS (732.1)	1588.	3485.	3372.	3128.	3181.	4428.	4347.	3898.	3793.	8312.	7955.	6145.	5913.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	2693.	6821.	6723.	6116.	6039.	5785.	8588.	7932.	7378.	16598.	15554.	12248.	11982.
MOTOR CYCLES (732.9)	32.	76.	76.	70.	69.	96.	95.	84.	83.	174.	168.	128.	124.
ROAD VEHICLES OTHER THAN MOTOR (733)	271.	671.	668.	593.	585.	847.	828.	727.	711.	1683.	1583.	1197.	1138.
CYCLES (733.1)	12.	23.	23.	21.	21.	28.	28.	25.	24.	52.	50.	40.	38.
AIRCRAFT (734)	963.	2088.	2047.	1881.	1865.	2664.	2614.	2303.	2265.	5815.	4768.	3684.	3915.
SHIPS AND BOATS (735)	1831.	3384.	3369.	3235.	3224.	4478.	4437.	4888.	3982.	8284.	8123.	6313.	6288.
MANUFACTURES OF METALS (69)	3798.	6588.	6427.	5238.	5196.	7986.	7319.	6489.	6244.	15261.	14912.	11527.	11816.

SOURCE: ECONOMETRIC RESEARCH LTD.

ARAB NON - OIL PRODUCING COUNTRIES

TABLE: 4.13 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

	1977	1985				1990				2000			
PRODUCTS	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	6778.	9948.	9948.	6819.	6819.	13824.	13824.	9399.	9399.	21349.	21349.	12218.	12218.
TOTAL MACHINERY NON-ELECTRIC (71)	2698.	4288.	4288.	3467.	3467.	5612.	5612.	4649.	4640.	9283.	9283.	5293.	5293.
TOTAL ELECTRICAL MACHINERY (72)	1318.	1839.	1839.	1489.	1489.	2413.	2413.	1742.	1742.	3984.	3984.	2287.	2287.
TOTAL TRANSPORT EQUIPMENT (73)	2324.	2476.	2434.	1918.	1878.	3289.	3152.	2191.	2154.	5244.	5119.	2814.	2749.
POWER GENERATING MACHINERY (711)	368.	446.	425.	345.	328.	577.	562.	397.	388.	932.	897.	511.	496.
STEAM ENGINES (711.1, 2, 3)	92.	58.	54.	41.	38.	74.	70.	47.	44.	118.	109.	59.	54.
AIR CRAFT ENGINES (711.4)	49.	73.	73.	59.	59.	96.	96.	78.	78.	159.	159.	93.	93.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	168.	261.	257.	207.	203.	339.	333.	238.	235.	549.	539.	307.	301.
GAS TURBINES (711.6)	42.	48.	46.	32.	38.	69.	62.	38.	37.	109.	103.	51.	49.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	179.	313.	311.	246.	244.	415.	412.	289.	287.	687.	681.	379.	376.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	38.	67.	66.	51.	51.	87.	86.	68.	59.	143.	148.	78.	76.
DAIRY FARM EQUIPMENT (712.3)	1.	1.	1.	1.	1.	2.	2.	1.	1.	3.	3.	2.	2.
TRACTORS (712.5)	122.	231.	229.	181.	180.	307.	306.	215.	214.	512.	509.	285.	283.
OFFICE MACHINERY (714)	44.	79.	78.	60.	59.	103.	102.	70.	69.	169.	165.	92.	90.
TYPEWRITERS (714.1)	9.	15.	15.	12.	12.	20.	18.	14.	14.	33.	32.	19.	19.
CALCULATING MACHINERY (714.2)	9.	17.	17.	13.	13.	21.	21.	15.	15.	34.	33.	19.	19.
STATISTICAL MACHINERY (714.3)	17.	22.	21.	16.	15.	29.	27.	19.	18.	49.	49.	25.	23.
METAL WORKING MACHINERY (715)	123.	111.	183.	68.	136.	133.	239.	88.	151.	195.	432.	98.	218.
MACHINE TOOLS (715.1)	100.	142.	161.	113.	127.	180.	214.	139.	151.	311.	373.	179.	210.
TEXTILE AND LEATHER MACHINERY (717)	317.	545.	627.	435.	495.	717.	838.	518.	588.	1173.	1441.	669.	801.
TEXTILE MACHINERY (717.1)	263.	489.	559.	390.	442.	642.	748.	458.	519.	1049.	1281.	600.	716.
SEWING MACHINERY (717.3)	22.	42.	41.	32.	33.	54.	55.	38.	39.	91.	92.	51.	52.
SPECIAL INDUSTRIAL MACHINERY (718)	594.	658.	759.	513.	594.	858.	1002.	597.	692.	1391.	1752.	778.	956.
PAPER AND PULP MACHINERY (718.1)	41.	39.	36.	29.	30.	47.	48.	34.	35.	76.	80.	45.	46.
PRINTING MACHINERY (718.2)	37.	48.	51.	39.	41.	63.	67.	45.	48.	103.	114.	58.	65.
FOOD PROCESSING MACHINERY (718.3)	107.	100.	135.	77.	102.	131.	179.	89.	118.	213.	327.	112.	159.
CONSTRUCTION, MINING MACHINERY (718.4)	265.	304.	293.	237.	229.	403.	384.	277.	264.	674.	625.	362.	336.
MINERAL PROCESSING MACHINERY (718.51)	127.	128.	154.	96.	116.	169.	204.	112.	134.	284.	365.	147.	186.
GLASS WORKING MACHINERY (718.52)	8.	2.	2.	2.	2.	2.	2.	2.	2.	4.	4.	2.	2.
OTHER SPECIAL MACHINERY (719)	1260.	1262.	1469.	962.	1069.	1637.	1840.	1187.	1217.	2762.	3182.	1438.	1627.
AIR-CONDITIONING MACHINERY (719.12)	18.	18.	18.	14.	14.	24.	24.	17.	17.	39.	39.	22.	22.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	49.	41.	47.	30.	35.	55.	64.	36.	42.	92.	113.	49.	58.
REFRIGERATING EQUIPMENT (719.15)	31.	36.	38.	28.	30.	47.	50.	33.	34.	77.	83.	43.	46.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	111.	99.	111.	77.	86.	131.	147.	91.	101.	217.	254.	121.	139.
PUMPS AND CENTRIFUGES (719.2)	260.	218.	218.	148.	148.	288.	272.	170.	160.	463.	448.	224.	201.
MECHANICAL HANDLING EQUIP (719.3)	227.	297.	332.	235.	261.	394.	442.	278.	309.	654.	772.	369.	427.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	6.	5.	5.	4.	4.	7.	7.	5.	5.	12.	12.	7.	7.
POWERED-TOOLS, OTHER (719.5)	46.	58.	58.	43.	44.	78.	75.	53.	51.	132.	123.	71.	66.

PACKAGING MACHINERY (719.62)	38.	69.	72.	52.	57.	97.	98.	62.	57.	144.	166.	82.	93.
WEIGHING MACHINERY (719.63)	9.	13.	15.	11.	12.	18.	20.	12.	14.	29.	34.	15.	19.
SPRAYING, VENDING, OTHER MACHINERY (719.81, 84, 88, 89)	26.	48.	48.	33.	33.	53.	53.	38.	38.	97.	97.	51.	50.
BALL, ROLLER BEARINGS (719.7)	23.	38.	33.	24.	27.	39.	43.	28.	31.	63.	73.	38.	41.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	366.	532.	627.	587.	587.	638.	638.	604.	584.	1408.	1408.	886.	886.
ELECTRICAL POWER MACHINERY (722)	402.	581.	480.	388.	378.	656.	638.	454.	443.	1874.	1838.	997.	979.
POWER TRANSFORMING MACHINERY (722.1)	232.	288.	273.	217.	211.	365.	354.	293.	248.	594.	588.	333.	328.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	123.	141.	129.	112.	111.	182.	188.	138.	128.	298.	291.	168.	165.
INSULATED WIRE AND CABLE (723.1)	112.	127.	126.	102.	101.	164.	162.	117.	118.	266.	262.	151.	149.
TELECOMMUNICATIONS APPARATUS (724)	449.	546.	546.	444.	444.	721.	721.	522.	522.	1198.	1198.	689.	689.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	51.	77.	77.	62.	62.	104.	104.	74.	74.	176.	176.	108.	108.
MEDICAL APPARATUS (726)	14.	16.	19.	12.	11.	22.	28.	14.	13.	36.	33.	19.	17.
ELECTRICAL MACHINERY OTHER (729)	248.	395.	398.	319.	321.	522.	526.	376.	378.	863.	874.	497.	502.
BATTERIES AND ACCUMULATORS (729.1)	27.	33.	33.	27.	27.	43.	44.	31.	31.	72.	72.	41.	41.
ELECTRIC LAMPS (729.2)	12.	18.	18.	19.	19.	24.	24.	17.	17.	39.	39.	22.	22.
VALVES, TUBES, ETC. (729.3)	14.	21.	20.	16.	16.	27.	27.	19.	19.	44.	43.	29.	29.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	36.	47.	47.	38.	38.	62.	62.	49.	49.	103.	102.	99.	99.
MEASURING APPARATUS (729.5)	68.	108.	108.	90.	88.	132.	133.	96.	98.	220.	221.	120.	120.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	7.	8.	5.	5.	5.	8.	8.	5.	5.	14.	13.	8.	7.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.
ELECTRIC FURNACES (729.92)	23.	32.	38.	24.	29.	42.	50.	29.	34.	69.	69.	39.	40.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	9.	13.	13.	10.	10.	18.	18.	13.	13.	31.	30.	17.	17.
ELECTRIC CONDENSORS (729.95)	2.	3.	3.	2.	2.	4.	4.	3.	3.	7.	6.	4.	4.
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	43.	31.	36.	23.	27.	36.	43.	23.	28.	92.	78.	26.	39.
RAILWAY VEHICLES (731)	163.	277.	275.	220.	219.	366.	363.	259.	257.	681.	596.	339.	336.
STEAM LOCOMOTIVES (731.1)	3.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.
ELECTRIC LOCOMOTIVES (731.2)	3.	0.	3.	0.	3.	0.	2.	0.	0.	0.	0.	0.	0.
LOCOMOTIVES, OTHER (731.3)	48.	54.	54.	44.	44.	72.	71.	52.	52.	117.	117.	78.	64.
PASSENGERS RAILWAY, TRAMWAY CARS (731.4, 5)	58.	26.	26.	20.	19.	39.	32.	22.	21.	99.	49.	27.	24.
FREIGHT RAILWAY, TRAMWAY CARS (731.6)	9.	33.	33.	29.	29.	45.	44.	30.	30.	76.	76.	48.	48.
ROAD MOTOR VEHICLES (732)	1399.	2038.	2011.	1974.	1968.	2668.	2635.	1848.	1822.	4385.	4309.	2418.	2374.
PASSENGER MOTOR CARS (732.1)	385.	589.	589.	413.	413.	673.	673.	467.	467.	1114.	1114.	643.	643.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	698.	1020.	1019.	819.	818.	1348.	1338.	958.	954.	2203.	2198.	1244.	1240.
MOTOR CYCLES (732.9)	33.	67.	67.	54.	54.	85.	89.	64.	64.	147.	147.	83.	83.
ROAD VEHICLES OTHER THAN MOTOR (733)	96.	103.	103.	81.	81.	137.	136.	97.	98.	230.	227.	129.	128.
CYCLES (733.1)	7.	11.	11.	9.	9.	14.	14.	10.	10.	23.	23.	13.	13.
AIRCRAFT (734)	318.	339.	351.	268.	251.	376.	384.	261.	275.	473.	471.	262.	261.
SHIPS AND BOATS (735)	369.	400.	398.	317.	315.	543.	539.	389.	383.	914.	984.	525.	520.
MANUFACTURES OF METALS (69)	591.	546.	637.	393.	489.	721.	838.	457.	527.	1288.	1477.	696.	725.

SOURCE: ECONOMETRIC RESEARCH LTD.

COUNTRIES IN THE FERTILE CRESCENT

TABLE: 4.14 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	4773.	9245.	11285.	8163.	9971.	13403.	16292.	10761.	12733.	23066.	34991.	19501.	22944.
TOTAL MACHINERY NON-ELECTRIC (71)	2282.	4628.	9632.	4136.	4847.	6729.	8228.	5475.	6448.	12846.	17642.	8813.	11818.
TOTAL ELECTRICAL MACHINERY (72)	929.	1596.	2878.	1462.	1777.	2485.	3814.	1932.	2290.	4271.	6398.	2888.	4294.
TOTAL TRANSPORT EQUIPMENT (73)	1251.	2965.	2916.	2544.	2951.	3643.	3794.	3829.	2572.	4317.	5666.	4686.	7692.
POWER GENERATING MACHINERY (711)	236.	244.	231.	207.	197.	204.	267.	214.	202.	241.	290.	197.	185.
STEAM ENGINES (711.1, 2, 3)	104.	26.	24.	29.	19.	33.	38.	22.	20.	45.	38.	23.	19.
AIR CRAFT ENGINES (711.4)	27.	23.	22.	20.	20.	29.	28.	22.	22.	46.	44.	29.	27.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	55.	126.	118.	103.	97.	149.	138.	108.	101.	157.	158.	104.	98.
GAS TURBINES (711.6)	29.	84.	81.	71.	69.	99.	99.	75.	72.	115.	107.	78.	81.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	126.	182.	182.	157.	157.	226.	225.	173.	173.	397.	346.	221.	213.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1)	38.	49.	48.	39.	39.	57.	56.	44.	42.	91.	96.	57.	54.
DAIRY FARM EQUIPMENT (712.3)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TRACTORS (712.5)	75.	96.	96.	81.	82.	128.	128.	91.	91.	192.	189.	117.	119.
OFFICE MACHINERY (714)	21.	28.	28.	23.	24.	37.	36.	29.	28.	60.	58.	37.	35.
TYPEWRITERS (714.1)	6.	9.	9.	6.	6.	7.	7.	5.	5.	11.	11.	7.	6.
CALCULATING MACHINERY (714.2)	5.	8.	8.	7.	7.	11.	10.	8.	8.	17.	15.	10.	9.
STATISTICAL MACHINERY (714.3)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
METAL WORKING MACHINERY (715)	89.	174.	247.	154.	206.	290.	363.	200.	276.	467.	887.	318.	521.
MACHINE TOOLS (715.1)	68.	137.	147.	99.	123.	198.	216.	128.	189.	286.	441.	191.	312.
TEXTILE AND LEATHER MACHINERY (717)	161.	267.	488.	231.	332.	398.	587.	309.	436.	690.	1290.	456.	812.
TEXTILE MACHINERY (717.1)	128.	235.	396.	204.	292.	344.	516.	273.	384.	617.	1148.	403.	715.
SEWING MACHINERY (717.3)	20.	32.	30.	26.	32.	46.	54.	35.	42.	82.	112.	92.	73.
SPECIAL INDUSTRIAL MACHINERY (718)	442.	1042.	1383.	948.	1178.	1529.	2034.	1298.	1515.	2708.	4915.	1884.	2988.
PAPER AND PULP MACHINERY (718.1)	79.	48.	47.	36.	48.	58.	68.	47.	53.	104.	141.	68.	94.
PRINTING MACHINERY (718.2)	16.	39.	54.	35.	46.	58.	68.	46.	62.	105.	177.	71.	118.
FOOD PROCESSING MACHINERY (718.3)	34.	73.	116.	61.	91.	104.	169.	79.	117.	184.	357.	118.	212.
CONSTRUCTION, MINING MACHINERY (718.4)	231.	507.	587.	489.	489.	639.	639.	564.	564.	998.	998.	739.	739.
MINERAL PROCESSING MACHINERY (718.51)	88.	325.	423.	294.	362.	443.	626.	398.	491.	877.	1399.	594.	931.
GLASS WORKING MACHINERY (718.52)	1.	19.	20.	18.	18.	20.	30.	24.	24.	58.	67.	39.	47.
OTHER SPECIAL MACHINERY (719)	1211.	1695.	2398.	1516.	2036.	2988.	3828.	2047.	2731.	4922.	7811.	3828.	5139.
AIR-CONDITIONING MACHINERY (719.12)	32.	39.	56.	35.	40.	60.	63.	49.	58.	109.	184.	73.	125.
INDUSTRIAL FURNACES, STOKERS, OVENS (719.13, 14)	32.	59.	84.	52.	72.	98.	129.	73.	97.	163.	279.	119.	184.
REFRIGERATING EQUIPMENT (719.15)	26.	72.	99.	66.	85.	109.	147.	91.	117.	199.	338.	135.	223.
OTHER HEATING, COOLING EQUIPMENT (719.11, 19)	225.	147.	222.	131.	190.	226.	221.	189.	255.	413.	743.	277.	495.
PUMPS AND CENTRIFUGES (719.2)	296.	208.	208.	174.	166.	243.	235.	188.	173.	348.	318.	204.	186.
MECHANICAL HANDLING EQUIP (719.3)	186.	298.	392.	257.	333.	448.	580.	359.	458.	797.	1291.	535.	869.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	1.	3.	3.	3.	3.	4.	4.	4.	4.	6.	6.	5.	5.
POWERED-TOOLS, OTHER (719.5)	27.	48.	58.	41.	49.	67.	84.	54.	60.	128.	178.	79.	119.

PACKAGING MACHINERY (719.62)	21.	49.	46.	40.	56.	88.	67.	59.	75.	123.	210.	82.	141.
WEIGHING MACHINERY (719.63)	4.	11.	14.	10.	12.	19.	21.	13.	16.	28.	46.	19.	38.
SPRAYING, VENDING, OTHER MACHINERY (719.64, 65, 66, 69)	21.	12.	12.	10.	10.	19.	14.	11.	11.	22.	21.	13.	12.
BALL, ROLLER BEARINGS (719.70)	7.	35.	44.	31.	38.	91.	89.	62.	91.	92.	149.	62.	97.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	314.	944.	944.	432.	432.	720.	720.	623.	623.	1102.	1102.	829.	829.
ELECTRICAL POWER MACHINERY (722)	372.	329.	302.	261.	244.	340.	308.	270.	270.	504.	421.	276.	220.
POWER TRANSFORMING MACHINERY (722.1)	248.	196.	163.	150.	140.	239.	218.	167.	155.	302.	292.	165.	139.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	97.	101.	96.	87.	83.	117.	110.	98.	89.	136.	116.	88.	84.
INSULATED WIRE AND CABLE (723.1)	87.	96.	91.	83.	79.	111.	104.	98.	81.	129.	118.	76.	64.
TELECOMMUNICATIONS APPARATUS (724)	187.	358.	390.	338.	338.	448.	448.	384.	384.	708.	708.	588.	588.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	69.	117.	117.	110.	110.	191.	191.	129.	129.	240.	240.	171.	171.
MEDICAL APPARATUS (726)	8.	13.	13.	13.	12.	16.	16.	14.	14.	29.	29.	19.	19.
ELECTRICAL MACHINERY OTHER (729)	172.	316.	396.	279.	339.	462.	677.	370.	491.	828.	1231.	539.	819.
BATTERIES AND ACCUMULATORS (729.1)	10.	24.	38.	21.	28.	39.	44.	29.	38.	63.	97.	42.	59.
ELECTRIC LAMPS (729.2)	3.	28.	38.	26.	27.	39.	49.	33.	36.	71.	99.	49.	66.
VALVES, TUBES, (729.3)	4.	28.	23.	17.	19.	28.	33.	22.	25.	40.	67.	32.	48.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	19.	46.	46.	44.	44.	99.	99.	91.	91.	93.	93.	67.	67.
MEASURING APPARATUS (729.5)	38.	69.	89.	61.	73.	101.	129.	81.	98.	180.	248.	119.	179.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	7.	8.	10.	7.	8.	11.	14.	9.	11.	28.	31.	14.	21.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC FURNACES (729.92)	17.	23.	34.	20.	28.	33.	48.	27.	37.	60.	111.	40.	78.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC CONDENSORS (729.98)	0.	0.	3.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.
OTHER ELECTRIC EQUIPMENT (729.94, 95, 96, 99)	61.	21.	33.	18.	27.	29.	47.	23.	38.	52.	102.	33.	63.
RAILWAY VEHICLES (731)	17.	135.	138.	124.	124.	175.	178.	146.	146.	283.	282.	194.	194.
STEAM LOCOMOTIVES (731.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LOCOMOTIVES, OTHER (731.3)	0.	16.	16.	16.	16.	21.	21.	19.	19.	32.	32.	29.	29.
PASSENGER, RAILWAY, TRAMWAY CARS (731.4, 5)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FREIGHT, RAILWAY, TRAMWAY CARS (731.6)	6.	29.	29.	23.	23.	32.	31.	27.	26.	51.	46.	39.	31.
ROAD MOTOR VEHICLES (732)	722.	2809.	2884.	2642.	2839.	3601.	3594.	3089.	3088.	5709.	5640.	4672.	4681.
PASSENGER MOTOR CARS (732.1)	125.	401.	401.	384.	384.	523.	523.	438.	438.	848.	848.	573.	573.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	363.	1214.	1108.	1044.	1044.	1580.	1567.	1248.	1219.	2592.	2304.	1662.	1518.
MOTOR CYCLES (732.9)	5.	30.	30.	26.	26.	35.	35.	31.	31.	64.	64.	41.	41.
ROAD VEHICLES OTHER THAN MOTOR (733)	54.	133.	134.	119.	116.	181.	175.	140.	136.	297.	278.	187.	189.
CYCLES (733.1)	2.	4.	4.	4.	4.	5.	5.	4.	4.	8.	8.	5.	5.
AIRCRAFT (734)	287.	346.	365.	303.	321.	461.	416.	319.	333.	521.	518.	367.	336.
SHIPS AND BOATS (735)	240.	690.	690.	690.	690.	887.	887.	812.	812.	1377.	1377.	1078.	1078.
MANUFACTURES OF METALS (69)	771.	643.	792.	589.	669.	812.	981.	678.	771.	1266.	1623.	884.	1089.

SOURCE: ECONOMETRIC RESEARCH LTD.

GULF COOPERATION COUNCIL (INCLUDING SAUDI ARABIA)
TABLE: 4.18 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	(ACTUAL VALUE)	HT	HD	LT	LD	HT	HD	LT	LD	HT	HD	LT	LD
TOTAL ENGINEERING PRODUCTS (7)	14199.	27696.	30933.	26691.	29184.	42167.	46874.	34981.	38293.	66619.	57651.	50057.	67881.
TOTAL MACHINERY NON-ELECTRIC (71)	5098.	9781.	10829.	9249.	10198.	14729.	16288.	12188.	13388.	28148.	34179.	19982.	23468.
TOTAL ELECTRICAL MACHINERY (72)	3862.	6656.	7588.	6512.	7145.	12387.	11418.	8883.	9412.	19892.	23918.	13898.	18445.
TOTAL TRANSPORT EQUIPMENT (73)	5342.	12698.	12332.	11872.	10948.	15011.	15652.	13598.	13316.	20888.	26838.	21229.	20892.
POWER GENERATING MACHINERY (711)	885.	1899.	1881.	1529.	1488.	2377.	2276.	1869.	1769.	4431.	3987.	2829.	2942.
STEAM ENGINES (711.1, .2, .3)	167.	279.	368.	389.	299.	462.	463.	376.	388.	918.	823.	984.	928.
AIR CRAFT ENGINES (711.4)	94.	229.	222.	182.	199.	293.	268.	247.	241.	942.	587.	388.	357.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	322.	779.	791.	636.	615.	998.	982.	772.	738.	1881.	1673.	1198.	1884.
GAS TURBINES (711.6)	218.	426.	412.	398.	348.	928.	988.	619.	397.	972.	677.	627.	983.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	192.	375.	378.	348.	338.	489.	479.	417.	488.	914.	858.	642.	689.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1)	18.	29.	29.	27.	27.	39.	38.	34.	33.	72.	78.	55.	51.
DAIRY FARM EQUIPMENT (712.2)	3.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	0.	8.
TRACTORS (712.5)	142.	288.	284.	261.	258.	376.	369.	328.	314.	781.	658.	482.	468.
OFFICE MACHINERY (714)	92.	212.	212.	212.	212.	369.	379.	271.	271.	963.	962.	419.	419.
TYPEWRITERS (714.1)	19.	92.	92.	46.	46.	67.	66.	97.	96.	127.	119.	89.	84.
CALCULATING MACHINERY (714.2)	18.	48.	48.	42.	42.	62.	61.	58.	58.	118.	109.	82.	77.
STATISTICAL MACHINERY (714.3)	38.	74.	74.	62.	61.	88.	84.	73.	71.	182.	152.	114.	188.
METAL WORKING MACHINERY (715)	189.	467.	587.	429.	582.	799.	841.	673.	679.	1419.	1529.	958.	1297.
MACHINE TOOLS (715.1)	88.	283.	328.	281.	381.	428.	499.	349.	488.	842.	1098.	978.	763.
TEXTILE AND LEATHER MACHINERY (717)	32.	114.	128.	104.	123.	172.	282.	139.	183.	341.	498.	228.	388.
TEXTILE MACHINERY (717.1)	17.	94.	69.	53.	62.	88.	183.	71.	63.	173.	231.	117.	198.
SEWING MACHINERY (717.3)	15.	95.	65.	58.	59.	62.	97.	88.	79.	163.	221.	189.	149.
SPECIAL INDUSTRIAL MACHINERY (718)	1084.	2218.	2490.	1894.	2388.	1332.	3648.	2799.	3027.	6299.	7718.	4183.	5294.
PAPER AND PULP MACHINERY (718.1)	4.	6.	6.	6.	6.	9.	9.	8.	8.	16.	16.	12.	12.
PRINTING MACHINERY (718.2)	28.	118.	148.	185.	128.	179.	218.	141.	168.	381.	448.	234.	324.
FOOD PROCESSING MACHINERY (718.3)	38.	91.	188.	75.	67.	124.	144.	97.	112.	249.	323.	168.	218.
CONSTRUCTION, MINING MACHINERY (718.4)	711.	1478.	1698.	1553.	1949.	2867.	3832.	1788.	1751.	3842.	3844.	2761.	2642.
MINERAL PROCESSING MACHINERY (718.51)	283.	1117.	1317.	1822.	1197.	1692.	1784.	1372.	1097.	3397.	4448.	2257.	3819.
GLASS WORKING MACHINERY (718.52)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
OTHER SPECIAL MACHINERY (719)	2738.	10989.	11189.	9822.	9197.	15673.	19703.	11721.	11751.	30341.	29772.	18738.	18454.
AIR-CONDITIONING MACHINERY (719.1)	286.	1014.	1219.	898.	1032.	1422.	1729.	1127.	1348.	2988.	3995.	1881.	2824.
INDUSTRIAL FURNACES, STOVES, OVENS (719.12, .13, .14)	38.	162.	198.	134.	164.	224.	276.	179.	214.	494.	649.	294.	428.
REFRIGERATING EQUIPMENT (719.15)	178.	547.	653.	469.	947.	818.	982.	632.	782.	1647.	1998.	1838.	1209.
OTHER HEATING, COOLING EQUIPMENT (719.11, .19)	394.	1287.	1423.	998.	1147.	1696.	1918.	1296.	1538.	3341.	4498.	2158.	2928.
PUMPS AND CENTRIFUGES (719.2)	538.	1409.	1498.	1098.	1888.	1548.	1927.	1228.	1289.	2881.	2826.	1671.	1822.
MECHANICAL HANDLING EQUIP (719.3)	631.	1184.	1272.	919.	1011.	1478.	1819.	1148.	1249.	2921.	3428.	1897.	2283.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	5.	13.	13.	13.	13.	19.	19.	17.	17.	39.	39.	26.	26.
POWERED-TOOLS, OTHER (719.5)	78.	298.	299.	197.	237.	388.	372.	244.	292.	622.	567.	488.	577.

PACKAGING MACHINERY (719.62)	28.	95.	112.	77.	93.	127.	152.	108.	119.	297.	351.	167.	238.
WEIGHING MACHINERY (719.63)	7.	28.	33.	23.	28.	39.	46.	38.	36.	79.	104.	51.	68.
SPRAYING, VENDING, OTHER MACHINERY (719.6., 64, 65, 66)	43.	126.	148.	98.	117.	152.	182.	128.	143.	309.	419.	198.	279.
BALL, ROLLER BEARINGS (719.7)	7.	24.	28.	20.	24.	33.	39.	26.	31.	66.	89.	43.	58.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	568.	1258.	1250.	1258.	1258.	1818.	1818.	1597.	1597.	3338.	3338.	2458.	2458.
ELECTRICAL POWER MACHINERY (722)	1368.	3388.	3291.	3096.	3048.	4851.	4764.	3982.	3913.	8975.	8628.	6147.	5911.
POWER TRANSFORMING MACHINERY (722.1)	879.	2099.	2069.	1983.	1956.	3099.	3046.	2593.	2515.	5718.	5518.	3934.	3883.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	572.	1383.	1356.	1278.	1253.	2012.	1968.	1638.	1604.	3735.	3568.	2533.	2414.
INSULATED WIRE AND CABLE (723.1)	529.	1289.	1263.	1188.	1164.	1873.	1831.	1523.	1498.	3481.	3313.	2356.	2242.
TELECOMMUNICATIONS APPARATUS (724)	1049.	2265.	2242.	2021.	2083.	2869.	2816.	2488.	2428.	5388.	5121.	3852.	3683.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	234.	567.	567.	567.	567.	815.	815.	723.	723.	1582.	1582.	1118.	1118.
MEDICAL APPARATUS (726)	22.	72.	70.	65.	63.	104.	101.	43.	81.	194.	183.	129.	122.
ELECTRICAL MACHINERY OTHER (729)	374.	1207.	1418.	1089.	1195.	1674.	1974.	1312.	1543.	3361.	4498.	2172.	2943.
BATTERIES AND ACCUMULATORS (729.1)	57.	211.	294.	181.	217.	383.	364.	238.	285.	611.	842.	396.	553.
ELECTRIC LAMPS (729.2)	18.	61.	72.	56.	66.	92.	108.	74.	87.	181.	243.	121.	164.
VALVES, TUBES, ETC. (729.3)	5.	16.	16.	14.	13.	21.	21.	17.	16.	41.	37.	26.	23.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	46.	99.	98.	91.	98.	138.	127.	111.	109.	241.	228.	171.	163.
MEASURING APPARATUS (729.5)	189.	363.	411.	287.	329.	460.	576.	359.	410.	918.	1167.	591.	760.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	19.	39.	38.	34.	34.	48.	47.	41.	41.	91.	97.	65.	62.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC FURNACES (729.92)	38.	147.	177.	125.	152.	211.	253.	166.	199.	427.	589.	277.	387.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	6.	20.	19.	15.	15.	23.	22.	18.	17.	43.	39.	28.	25.
ELECTRIC CONDENSORS (729.95)	2.	3.	3.	2.	2.	3.	3.	3.	2.	7.	6.	4.	3.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	68.	228.	273.	188.	227.	318.	391.	237.	298.	618.	958.	398.	608.
RAILWAY VEHICLES (731)	21.	35.	34.	27.	26.	41.	39.	31.	29.	78.	67.	48.	41.
STEAM LOCOMOTIVES (731.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LOCOMOTIVES, OTHER (731.3)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
PASSENGERS: RAILWAY, TRAMWAY CARS (731.4, 5)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)	0.	0.	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
ROAD MOTOR VEHICLES (732)	3491.	8151.	8036.	7139.	7846.	10375.	10113.	8724.	8524.	19466.	18196.	13596.	12768.
PASSENGER MOTOR CARS (732.1)	1213.	2758.	2718.	2473.	2447.	3568.	3487.	3042.	2985.	6668.	6311.	4738.	4585.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	1863.	4533.	4468.	3898.	3839.	5738.	5564.	4755.	4629.	10780.	9976.	7423.	6899.
MOTOR CYCLES (732.9)	29.	61.	61.	55.	55.	78.	76.	67.	66.	144.	137.	103.	99.
ROAD VEHICLES OTHER THAN MOTOR (733)	176.	397.	390.	328.	323.	482.	466.	395.	383.	912.	836.	619.	578.
CYCLES (733.1)	7.	14.	13.	11.	11.	16.	15.	13.	13.	30.	27.	20.	19.
AIRCRAFT (734)	723.	1583.	1563.	1404.	1388.	2022.	1975.	1714.	1679.	3778.	3593.	2662.	2515.
SHIPS AND BOATS (735)	926.	2312.	2298.	2163.	2152.	3075.	3042.	2711.	2686.	5815.	5654.	4281.	4176.
MANUFACTURES OF METALS (69)	2361.	4431.	4348.	3220.	3159.	4308.	4145.	3438.	3307.	7918.	7231.	5182.	4788.

SOURCE: ECONOMETRIC RESEARCH LTD.

COUNTRIES IN THE NILE VALLEY

TABLE: 4.16 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HD	LT	LD	HT	HD	LT	LD	HT	HD	LT	LD
TOTAL ENGINEERING PRODUCTS (7)	2924.	4634.	4634.	3833.	3833.	6016.	6016.	4466.	4466.	9687.	9687.	5821.	5821.
TOTAL MACHINERY NON-ELECTRIC (71)	1266.	2185.	2185.	1739.	1739.	2748.	2748.	2032.	2032.	4422.	4422.	2696.	2696.
TOTAL ELECTRICAL MACHINERY (72)	614.	896.	896.	739.	739.	1182.	1182.	678.	678.	1934.	1934.	1171.	1171.
TOTAL TRANSPORT EQUIPMENT (73)	893.	443.	408.	316.	289.	494.	447.	318.	279.	679.	581.	329.	278.
POWER GENERATING MACHINERY (711)	177.	241.	241.	208.	208.	313.	313.	233.	233.	583.	583.	384.	384.
STEAM ENGINES (711.1, 2, 3)	50.	13.	11.	8.	7.	14.	12.	8.	7.	16.	13.	7.	6.
AIR CRAFT ENGINES (711.4)	27.	53.	53.	44.	44.	71.	71.	52.	52.	117.	117.	71.	71.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	88.	148.	148.	123.	123.	192.	192.	143.	143.	308.	308.	185.	185.
GAS TURBINES (711.6)	11.	7.	7.	6.	6.	9.	9.	7.	7.	15.	15.	9.	9.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	68.	81.	79.	61.	60.	104.	101.	71.	69.	165.	159.	92.	89.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	14.	15.	14.	9.	9.	19.	17.	11.	10.	29.	26.	14.	12.
DAIRY FARM EQUIPMENT (712.3)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TRACTORS (712.5)	46.	69.	68.	53.	53.	90.	89.	63.	62.	147.	143.	84.	83.
OFFICE MACHINERY (714)	28.	36.	36.	30.	30.	47.	47.	35.	35.	77.	77.	46.	46.
TYPEWRITERS (714.1)	2.	5.	5.	5.	5.	7.	7.	5.	5.	12.	12.	7.	7.
CALCULATING MACHINERY (714.2)	4.	7.	7.	6.	6.	9.	9.	7.	7.	15.	15.	9.	9.
STATISTICAL MACHINERY (714.3)	9.	8.	7.	5.	4.	11.	9.	6.	5.	15.	15.	9.	7.
METAL WORKING MACHINERY (715)	57.	53.	94.	39.	70.	57.	114.	37.	75.	67.	199.	34.	183.
MACHINE TOOLS (715.1)	45.	101.	101.	83.	83.	133.	133.	99.	99.	219.	219.	133.	133.
TEXTILE AND LEATHER MACHINERY (717)	147.	380.	380.	311.	311.	501.	501.	368.	368.	817.	817.	487.	487.
TEXTILE MACHINERY (717.1)	139.	351.	351.	288.	288.	463.	463.	340.	340.	755.	755.	450.	450.
SEWING MACHINERY (717.3)	6.	10.	11.	8.	9.	13.	14.	10.	10.	22.	23.	13.	14.
SPECIAL INDUSTRIAL MACHINERY (718)	253.	371.	371.	304.	304.	488.	488.	359.	359.	794.	794.	473.	473.
PAPER AND PULP MACHINERY (718.1)	7.	19.	19.	15.	15.	25.	25.	18.	18.	41.	41.	24.	24.
PRINTING MACHINERY (718.2)	20.	33.	33.	27.	27.	43.	43.	32.	32.	71.	71.	43.	43.
FOOD PROCESSING MACHINERY (718.3)	70.	55.	55.	45.	45.	72.	72.	51.	51.	114.	114.	64.	64.
CONSTRUCTION, MINING MACHINERY (718.4)	104.	125.	115.	95.	87.	167.	149.	112.	99.	283.	234.	148.	121.
MINERAL PROCESSING MACHINERY (718.51)	38.	48.	44.	36.	33.	65.	57.	43.	38.	110.	98.	57.	46.
GLASS WORKING MACHINERY (718.52)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
OTHER SPECIAL MACHINERY (719)	543.	578.	529.	441.	403.	764.	675.	511.	458.	1285.	1047.	668.	542.
AIR-CONDITIONING MACHINERY (719.12)	7.	9.	9.	7.	7.	12.	12.	9.	9.	19.	19.	11.	11.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	28.	22.	22.	18.	18.	29.	29.	22.	22.	49.	49.	30.	30.
REFRIGERATING EQUIPMENT (719.15)	15.	23.	23.	19.	19.	31.	31.	23.	23.	50.	50.	30.	30.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	47.	62.	62.	51.	51.	83.	83.	61.	61.	136.	136.	82.	82.
PUMPS AND CENTRIFUGES (719.2)	132.	123.	113.	98.	83.	164.	145.	106.	93.	278.	227.	140.	113.
MECHANICAL HANDLING EQUIP (719.3)	96.	163.	163.	134.	134.	217.	217.	161.	161.	357.	357.	216.	216.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	2.	3.	3.	3.	3.	5.	5.	3.	3.	8.	8.	5.	5.
POWERED-TOOLS, OTHER (719.5)	16.	19.	18.	14.	13.	26.	23.	17.	15.	46.	36.	23.	18.

PACKAGING MACHINERY (719.62)	13.	39.	39.	32.	32.	52.	52.	38.	38.	96.	96.	52.	92.
WEIGHING MACHINERY (719.63)	4.	8.	8.	6.	6.	10.	10.	7.	7.	17.	17.	10.	10.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 66)	11.	29.	25.	21.	21.	34.	34.	29.	29.	56.	56.	33.	33.
BALL, ROLLER BEARINGS (719.7)	14.	16.	16.	14.	14.	21.	21.	16.	16.	34.	34.	21.	21.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	161.	289.	289.	237.	237.	385.	385.	284.	284.	634.	634.	381.	381.
ELECTRICAL POWER MACHINERY (722)	178.	287.	287.	239.	239.	381.	381.	281.	281.	629.	629.	376.	376.
POWER TRANSFORMING MACHINERY (722.1)	102.	172.	172.	142.	142.	229.	229.	169.	169.	377.	377.	227.	227.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	61.	78.	78.	65.	65.	102.	102.	76.	76.	165.	165.	108.	108.
INSULATED WIRE AND CABLE (723.1)	55.	72.	72.	60.	60.	94.	94.	70.	70.	151.	151.	92.	92.
TELECOMMUNICATIONS APPARATUS (724)	217.	258.	258.	214.	214.	338.	338.	253.	253.	551.	551.	335.	335.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	16.	26.	26.	21.	21.	34.	34.	25.	25.	57.	57.	34.	34.
MEDICAL APPARATUS (726)	5.	6.	6.	4.	4.	9.	7.	5.	5.	15.	12.	7.	6.
ELECTRICAL MACHINERY OTHER (729)	117.	200.	200.	165.	165.	264.	264.	196.	196.	432.	432.	261.	261.
BATTERIES AND ACCUMULATORS (729.1)	12.	15.	15.	12.	12.	19.	19.	14.	14.	31.	31.	19.	19.
ELECTRIC LAMPS (729.2)	6.	9.	9.	8.	8.	12.	12.	9.	9.	20.	20.	12.	12.
VALVES, TUBES, ETC. (729.3)	5.	4.	4.	4.	4.	5.	5.	4.	4.	8.	8.	5.	5.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	17.	20.	20.	16.	16.	26.	26.	19.	19.	43.	43.	26.	26.
MEASURING APPARATUS (729.5)	25.	59.	59.	48.	48.	79.	79.	58.	58.	131.	130.	79.	79.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	2.	2.	1.	1.	1.	2.	2.	1.	1.	4.	3.	2.	2.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	0.	1.	1.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
ELECTRIC FURNACES (729.92)	10.	24.	24.	20.	20.	32.	32.	24.	24.	53.	53.	32.	32.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	2.	11.	11.	9.	9.	14.	14.	11.	11.	24.	24.	15.	15.
ELECTRIC CONDENSORS (729.95)	0.	2.	2.	2.	2.	3.	3.	2.	2.	4.	4.	3.	3.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	29.	23.	20.	17.	15.	25.	21.	16.	14.	34.	26.	18.	14.
RAILWAY VEHICLES (731)	95.	159.	159.	131.	131.	206.	206.	151.	151.	330.	330.	194.	194.
STEAM LOCOMOTIVES (731.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LOCOMOTIVES, OTHER (731.3)	39.	50.	49.	40.	40.	66.	65.	48.	48.	108.	107.	64.	64.
PASSENGERS: RAILWAY, TRAMWAY CARS (731.4, 5)	36.	12.	11.	9.	8.	13.	11.	9.	8.	18.	14.	9.	7.
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)	5.	3.	3.	2.	2.	3.	3.	2.	2.	5.	4.	2.	2.
ROAD MOTOR VEHICLES (732)	586.	860.	860.	712.	712.	1107.	1107.	821.	821.	1767.	1767.	1056.	1056.
PASSENGER MOTOR CARS (732.1)	119.	183.	183.	151.	151.	241.	241.	179.	179.	393.	393.	239.	239.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	285.	379.	379.	314.	314.	479.	479.	355.	355.	752.	752.	445.	445.
MOTOR CYCLES (732.9)	7.	15.	15.	13.	13.	20.	20.	15.	15.	34.	34.	21.	21.
ROAD VEHICLES OTHER THAN MOTOR (733)	15.	41.	41.	34.	34.	54.	54.	40.	40.	89.	89.	54.	54.
CYCLES (733.1)	2.	5.	5.	4.	4.	7.	7.	5.	5.	11.	11.	7.	7.
AIRCRAFT (734)	54.	59.	55.	49.	46.	56.	51.	42.	39.	63.	51.	36.	30.
SHIPS AND BOATS (735)	124.	272.	272.	222.	222.	369.	369.	272.	272.	619.	619.	375.	375.
MANUFACTURES OF METALS (69)	307.	208.	190.	148.	134.	282.	249.	177.	154.	483.	395.	238.	191.

SOURCE: ECONOMETRIC RESEARCH LTD.

MAGHREB

TABLE: 4.17 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	8639.	13718.	14286.	13093.	13372.	19759.	20399.	17981.	18291.	42217.	46219.	36286.	39725.
TOTAL MACHINERY NON-ELECTRIC (71)	3585.	6871.	6371.	5782.	5992.	8624.	9140.	8081.	8246.	18946.	21856.	16458.	18312.
TOTAL ELECTRICAL MACHINERY (72)	1644.	2647.	2798.	2571.	2629.	3849.	3958.	3518.	3574.	8239.	6967.	7881.	7721.
TOTAL TRANSPORT EQUIPMENT (73)	3226.	4517.	4517.	4315.	4315.	6088.	6088.	5468.	5468.	12853.	12853.	10882.	10882.
POWER GENERATING MACHINERY (711)	415.	689.	662.	626.	603.	1065.	1021.	932.	898.	2479.	2275.	2033.	1860.
STEAM ENGINES (711.1, 2, 3)	58.	181.	174.	165.	159.	289.	277.	251.	248.	715.	657.	570.	522.
AIR CRAFT ENGINES (711.4)	29.	57.	57.	55.	55.	77.	77.	69.	69.	161.	161.	133.	133.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	164.	318.	309.	295.	287.	487.	472.	434.	423.	1184.	1025.	925.	897.
GAS TURBINES (711.6)	154.	121.	116.	109.	105.	184.	177.	161.	157.	407.	373.	342.	315.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	206.	518.	518.	498.	498.	691.	691.	614.	614.	1338.	1338.	1095.	1095.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	39.	161.	161.	156.	156.	214.	214.	197.	197.	414.	414.	358.	358.
DAIRY FARM EQUIPMENT (712.3)	4.	10.	10.	9.	9.	13.	13.	12.	12.	26.	26.	22.	22.
TRACTORS (712.5)	135.	304.	304.	283.	283.	485.	485.	351.	351.	788.	788.	615.	615.
OFFICE MACHINERY (714)	57.	93.	91.	83.	82.	130.	127.	111.	109.	261.	240.	209.	199.
TYPEWRITERS (714.1)	12.	22.	22.	21.	21.	31.	31.	28.	27.	62.	60.	52.	50.
CALCULATING MACHINERY (714.2)	12.	25.	25.	24.	23.	34.	34.	31.	31.	68.	66.	58.	56.
STATISTICAL MACHINERY (714.3)	19.	25.	25.	22.	22.	34.	34.	28.	28.	65.	63.	48.	46.
METAL WORKING MACHINERY (715)	125.	264.	283.	252.	263.	393.	413.	367.	377.	850.	909.	770.	889.
MACHINE TOOLS (715.1)	98.	206.	220.	197.	205.	311.	326.	289.	297.	684.	783.	612.	699.
TEXTILE AND LEATHER MACHINERY (717)	177.	207.	220.	182.	194.	274.	295.	223.	240.	495.	584.	356.	429.
TEXTILE MACHINERY (717.1)	133.	166.	166.	146.	146.	216.	216.	175.	175.	379.	379.	273.	273.
SEWING MACHINERY (717.3)	14.	24.	24.	21.	21.	32.	32.	25.	25.	56.	56.	37.	37.
SPECIAL INDUSTRIAL MACHINERY (718)	719.	1153.	1213.	1101.	1135.	1684.	1747.	1549.	1582.	3634.	4054.	3176.	3545.
PAPER AND PULP MACHINERY (718.1)	25.	42.	48.	40.	44.	63.	71.	60.	64.	141.	178.	129.	159.
PRINTING MACHINERY (718.2)	29.	38.	38.	35.	35.	50.	50.	44.	44.	91.	91.	75.	75.
FOOD PROCESSING MACHINERY (718.3)	69.	80.	105.	73.	95.	119.	155.	105.	134.	259.	416.	213.	341.
CONSTRUCTION, MINING MACHINERY (718.4)	385.	508.	502.	485.	481.	708.	708.	642.	638.	1458.	1411.	1233.	1191.
MINERAL PROCESSING MACHINERY (718.51)	202.	320.	404.	299.	368.	496.	615.	449.	543.	1120.	1678.	960.	1416.
GLASS WORKING MACHINERY (718.52)	3.	4.	4.	4.	4.	6.	6.	5.	5.	12.	13.	10.	11.
OTHER SPECIAL MACHINERY (719)	1911.	2925.	2835.	2731.	2658.	4574.	4429.	4131.	4019.	10603.	9822.	9031.	8360.
AIR-CONDITIONING MACHINERY (719.12)	50.	44.	43.	42.	42.	62.	61.	57.	57.	130.	124.	113.	108.
INDUSTRIAL FURNACES, STROKERS, OVENS (719.13,14)	85.	75.	76.	69.	70.	113.	114.	102.	102.	243.	253.	211.	220.
REFRIGERATING EQUIPMENT (719.15)	41.	41.	42.	38.	38.	57.	58.	50.	51.	118.	126.	98.	105.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	231.	251.	265.	248.	248.	360.	383.	342.	350.	804.	903.	714.	803.
PUMPS AND CENTRIFUGES (719.2)	358.	409.	391.	378.	395.	630.	682.	555.	535.	1462.	1333.	1224.	1122.
MECHANICAL HANDLING EQUIP (719.3)	411.	884.	949.	848.	884.	1359.	1423.	1260.	1303.	3025.	3679.	2729.	3120.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	10.	8.	8.	8.	8.	11.	11.	9.	9.	20.	20.	17.	17.
POWERED-TOOLS, OTHER (719.5)	60.	157.	167.	150.	156.	233.	243.	215.	221.	507.	575.	448.	508.

PACKAGING MACHINERY (719.62)	51.	40.	59.	43.	53.	70.	56.	58.	72.	143.	207.	110.	162.
WEIGHING MACHINERY (719.63)	13.	18.	18.	17.	17.	23.	23.	21.	21.	44.	44.	37.	37.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 66)	47.	53.	53.	51.	51.	70.	70.	64.	64.	142.	142.	120.	120.
BALL, ROLLER BEARINGS (719.7)	40.	28.	32.	26.	29.	41.	47.	36.	40.	96.	113.	69.	92.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	513.	744.	854.	790.	805.	1205.	1219.	1095.	1101.	2547.	2642.	2177.	2260.
ELECTRICAL POWER MACHINERY (722)	590.	763.	737.	718.	694.	1204.	1159.	1090.	1094.	2803.	2696.	2440.	2248.
POWER TRANSFORMING MACHINERY (722.1)	306.	428.	413.	404.	391.	680.	653.	620.	599.	1640.	1515.	1411.	1298.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	167.	302.	294.	282.	274.	463.	448.	411.	397.	1090.	1020.	896.	838.
INSULATED WIRE AND CABLE (723.1)	152.	289.	279.	269.	259.	465.	446.	415.	400.	1142.	1051.	948.	871.
TELECOMMUNICATIONS APPARATUS (724)	480.	721.	721.	684.	684.	969.	969.	862.	862.	1890.	1890.	1552.	1552.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	69.	116.	116.	112.	112.	196.	196.	142.	142.	311.	311.	263.	263.
MEDICAL APPARATUS (726)	26.	31.	31.	29.	29.	41.	41.	37.	37.	80.	80.	67.	67.
ELECTRICAL MACHINERY OTHER (729)	292.	492.	492.	471.	471.	658.	658.	592.	592.	1289.	1289.	1073.	1073.
BATTERIES AND ACCUMULATORS (729.1)	41.	56.	56.	53.	53.	74.	74.	66.	66.	141.	141.	116.	116.
ELECTRIC LAMPS (729.2)	16.	24.	24.	22.	22.	31.	31.	27.	27.	58.	58.	47.	47.
VALVES, TUBES, ETC. (729.3)	13.	15.	15.	14.	13.	22.	22.	18.	18.	47.	44.	36.	34.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	44.	73.	73.	70.	70.	97.	97.	87.	87.	189.	189.	158.	158.
MEASURING APPARATUS (729.5)	70.	118.	118.	114.	114.	158.	158.	143.	143.	308.	308.	258.	258.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	5.	12.	12.	11.	11.	16.	16.	15.	15.	34.	33.	28.	27.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.
ELECTRIC FURNACES (729.92)	31.	61.	62.	59.	59.	92.	93.	86.	87.	203.	211.	184.	191.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	9.	12.	12.	11.	11.	17.	17.	14.	14.	35.	34.	28.	27.
ELECTRIC CONDENSORS (729.95)	3.	4.	4.	4.	4.	6.	6.	5.	5.	13.	12.	11.	10.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	57.	25.	25.	24.	24.	33.	33.	30.	30.	65.	65.	56.	56.
RAILWAY VEHICLES (731)	183.	187.	185.	170.	168.	253.	250.	217.	216.	467.	461.	370.	375.
STEAM LOCOMOTIVES (731.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	8.	8.	8.	8.	13.	13.	13.	13.	31.	29.	29.	27.
LOCOMOTIVES, OTHER (731.3)	30.	15.	15.	14.	14.	22.	21.	19.	19.	45.	42.	38.	36.
PASSENGERS: RAILWAY, TRAMWAY CARS (731.4, 5)	51.	59.	58.	54.	53.	81.	80.	71.	70.	153.	151.	127.	126.
FREIGHT: RAILWAY, TRAMWAY CARS (731.6)	46.	70.	70.	63.	63.	97.	96.	81.	81.	180.	180.	140.	139.
ROAD MOTOR VEHICLES (732)	1641.	2837.	2823.	2695.	2685.	3820.	3798.	3442.	3429.	7594.	7538.	6417.	6392.
PASSENGER MOTOR CARS (732.1)	347.	579.	579.	552.	552.	769.	769.	686.	686.	1518.	1518.	1238.	1238.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	879.	1715.	1715.	1659.	1659.	2327.	2327.	2129.	2129.	4637.	4637.	3961.	3961.
MOTOR CYCLES (732.9)	23.	37.	37.	38.	38.	48.	48.	35.	35.	80.	80.	46.	46.
ROAD VEHICLES OTHER THAN MOTOR (733)	83.	198.	198.	194.	194.	267.	267.	248.	248.	535.	535.	465.	465.
CYCLES (733.1)	8.	12.	12.	11.	11.	15.	15.	13.	13.	27.	27.	21.	21.
AIRCRAFT (734)	296.	419.	417.	394.	392.	561.	557.	492.	490.	1126.	1117.	981.	897.
SHIPS AND BOATS (735)	905.	501.	499.	471.	469.	683.	679.	590.	596.	1387.	1378.	1112.	1107.
MANUFACTURES OF METALS (69)	1042.	1772.	1773.	1666.	1653.	2834.	2802.	2580.	2530.	6801.	6740.	5820.	5782.

SOURCE: ECONOMETRIC RESEARCH LTD.

ARAB NORTH AFRICA

TABLE: 4.18 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	11563.	18352.	18928.	16888.	17284.	29779.	26379.	22447.	22797.	51984.	55986.	42828.	45546.
TOTAL MACHINERY NON-ELECTRIC (71)	4852.	8176.	8676.	7921.	7891.	11564.	11888.	10113.	10278.	23378.	29478.	19114.	20968.
TOTAL ELECTRICAL MACHINERY (72)	2254.	3583.	3686.	3318.	3368.	5832.	5141.	4396.	4453.	10173.	10985.	8252.	8892.
TOTAL TRANSPORT EQUIPMENT (73)	4119.	4968.	4925.	4638.	4684.	5563.	6535.	5777.	5767.	12732.	12634.	10338.	10288.
POWER GENERATING MACHINERY (711)	592.	938.	982.	823.	863.	1377.	1333.	1165.	1131.	2983.	2778.	2337.	2172.
STEAM ENGINES (711.1, 2, 3)	188.	199.	186.	173.	166.	383.	289.	259.	247.	731.	678.	577.	528.
AIR CRAFT ENGINES (711.4)	56.	110.	113.	98.	98.	148.	148.	122.	122.	279.	278.	284.	283.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	252.	468.	457.	417.	418.	679.	664.	577.	566.	1413.	1333.	1111.	1043.
GAS TURBINES (711.6)	165.	128.	123.	115.	111.	193.	186.	168.	164.	422.	388.	392.	325.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	273.	599.	597.	552.	558.	795.	793.	685.	683.	1584.	1497.	1186.	1184.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	53.	175.	174.	165.	164.	232.	231.	208.	207.	443.	441.	372.	378.
DAIRY FARM EQUIPMENT (712.3)	5.	10.	10.	9.	9.	13.	13.	12.	12.	26.	26.	22.	22.
TRACTORS (712.5)	181.	373.	372.	337.	336.	496.	494.	415.	414.	926.	923.	699.	698.
OFFICE MACHINERY (714)	77.	129.	128.	113.	112.	177.	175.	146.	144.	337.	325.	255.	246.
TYPEWRITERS (714.1)	14.	28.	27.	25.	25.	38.	38.	33.	33.	74.	72.	59.	57.
CALCULATING MACHINERY (714.2)	15.	32.	32.	30.	29.	43.	43.	38.	38.	93.	91.	67.	65.
STATISTICAL MACHINERY (714.3)	28.	33.	32.	28.	27.	48.	44.	35.	34.	84.	79.	57.	54.
METAL WORKING MACHINERY (715)	182.	317.	377.	291.	134.	458.	527.	403.	452.	929.	1188.	884.	988.
MACHINE TOOLS (715.1)	143.	307.	321.	288.	288.	444.	459.	388.	396.	983.	1082.	745.	832.
TEXTILE AND LEATHER MACHINERY (717)	324.	587.	599.	494.	505.	775.	796.	591.	609.	1312.	1481.	943.	916.
TEXTILE MACHINERY (717.1)	272.	517.	517.	434.	434.	679.	679.	516.	516.	1134.	1134.	723.	723.
SEWING MACHINERY (717.3)	20.	34.	35.	29.	30.	45.	46.	34.	35.	78.	80.	50.	51.
SPECIAL INDUSTRIAL MACHINERY (718)	972.	1524.	1584.	1485.	1439.	2172.	2235.	1987.	1948.	4429.	4848.	3849.	4818.
PAPER AND PULP MACHINERY (718.1)	33.	61.	66.	56.	60.	88.	95.	78.	83.	182.	218.	153.	183.
PRINTING MACHINERY (718.2)	49.	71.	71.	62.	62.	93.	93.	76.	76.	163.	163.	118.	118.
FOOD PROCESSING MACHINERY (718.3)	139.	135.	160.	118.	139.	198.	226.	155.	185.	373.	529.	277.	485.
CONSTRUCTION,MINING MACHINERY (718.4)	492.	633.	617.	581.	569.	875.	849.	794.	737.	1741.	1645.	1381.	1313.
MINERAL PROCESSING MACHINERY (718.5.)	248.	368.	447.	335.	481.	561.	672.	492.	588.	1237.	1768.	1025.	1462.
GLASS WORKING MACHINERY (718.52)	11.	4.	4.	4.	4.	6.	6.	5.	5.	12.	13.	10.	11.
OTHER SPECIAL MACHINERY (719)	2453.	3503.	3364.	3173.	3061.	5338.	5103.	4642.	4469.	11888.	10868.	9699.	8981.
AIR-CONDITIONING MACHINERY (719.12)	57.	53.	52.	50.	49.	74.	73.	66.	65.	149.	143.	124.	120.
INDUSTRIAL FURNACES, STROKERS,OVENS (719.13,14)	106.	97.	98.	87.	87.	143.	143.	123.	124.	292.	301.	241.	250.
REFRIGERATING EQUIPMENT (719.15)	56.	64.	65.	57.	58.	88.	88.	73.	73.	168.	176.	128.	135.
OTHER HEATING,COOLING EQUIPMENT (719.11,19)	278.	313.	327.	291.	299.	451.	465.	403.	411.	940.	1039.	796.	885.
PUMPS AND CENTRIFUGES (719.2)	498.	532.	584.	468.	438.	794.	747.	661.	627.	1748.	1561.	1384.	1234.
MECHANICAL HANDLING EQUIP (719.3)	587.	1048.	1112.	983.	1019.	1572.	1648.	1428.	1484.	3383.	3836.	2945.	3344.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	11.	12.	12.	11.	11.	15.	15.	13.	13.	28.	28.	21.	21.
POWERED-TOOLS,OTHER (719.5)	75.	177.	189.	184.	169.	268.	266.	233.	236.	553.	611.	471.	526.

PACKAGING MACHINERY (719.62)	63.	87.	97.	79.	86.	121.	137.	98.	118.	229.	293.	162.	213.
WEIGHING MACHINERY (719.63)	15.	25.	25.	23.	23.	34.	34.	28.	28.	61.	61.	47.	47.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 66)	59.	78.	78.	72.	72.	104.	104.	89.	89.	197.	197.	153.	153.
BALL, ROLLER BEARINGS (719.7)	94.	49.	49.	39.	43.	62.	68.	91.	96.	128.	147.	98.	113.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	674.	1034.	1143.	1039.	1042.	1591.	1605.	1379.	1389.	3191.	3277.	2958.	2641.
ELECTRICAL POWER MACHINERY (722)	768.	1090.	1024.	951.	929.	1984.	1939.	1371.	1335.	3508.	3282.	2816.	2624.
POWER TRANSFORMING MACHINERY (722.1)	405.	600.	585.	546.	533.	909.	883.	790.	768.	2026.	1892.	1639.	1525.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	226.	380.	372.	347.	339.	566.	558.	487.	474.	1263.	1193.	996.	939.
INSULATED WIRE AND CABLE (723.1)	207.	361.	350.	328.	319.	558.	540.	449.	470.	1294.	1282.	1040.	983.
TELECOMMUNICATIONS APPARATUS (724)	697.	988.	988.	898.	898.	1307.	1307.	1115.	1115.	2441.	2441.	1888.	1888.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	85.	142.	142.	133.	133.	198.	198.	168.	168.	368.	368.	298.	298.
MEDICAL APPARATUS (726)	31.	37.	36.	34.	33.	50.	49.	43.	42.	95.	92.	74.	73.
ELECTRICAL MACHINERY OTHER (729)	409.	693.	693.	636.	636.	922.	922.	788.	788.	1721.	1721.	1334.	1334.
BATTERIES AND ACCUMULATORS (729.1)	52.	71.	71.	65.	65.	93.	93.	88.	88.	172.	172.	135.	135.
ELECTRIC LAMPS (729.2)	23.	33.	33.	38.	38.	44.	44.	37.	37.	78.	78.	59.	59.
VALVES, TUBES, ETC. (729.3)	18.	28.	19.	17.	17.	27.	27.	22.	22.	95.	92.	41.	38.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	61.	93.	93.	88.	88.	123.	123.	107.	107.	233.	233.	183.	183.
MEASURING APPARATUS (729.5)	98.	178.	177.	162.	162.	237.	237.	201.	201.	439.	438.	337.	337.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	9.	13.	13.	12.	12.	19.	18.	16.	16.	38.	36.	30.	29.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	1.	1.	1.	1.	1.	2.	2.	1.	1.	4.	4.	2.	2.
ELECTRIC FURNACES (729.92)	44.	65.	86.	78.	79.	124.	125.	110.	111.	256.	264.	216.	223.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	12.	23.	22.	19.	19.	31.	31.	25.	25.	59.	56.	43.	42.
ELECTRIC CONDENSORS (729.95)	3.	6.	6.	5.	5.	9.	8.	7.	7.	17.	16.	13.	13.
OTHER ELECTRIC EQUIPMENT (729.94-96, 98, 99)	86.	47.	45.	41.	39.	58.	54.	47.	45.	99.	92.	74.	70.
RAILWAY VEHICLES (731)	278.	346.	344.	300.	299.	459.	456.	368.	367.	798.	791.	572.	570.
STEAM LOCOMOTIVES (731.1)	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	8.	8.	8.	8.	13.	13.	13.	13.	31.	29.	29.	27.
LOCOMOTIVES, OTHER (731.3)	69.	65.	64.	54.	54.	87.	87.	68.	67.	152.	149.	183.	108.
PASSENGERS' RAILWAY, TRAMWAY CARS (731.4, 5)	86.	71.	69.	63.	62.	94.	91.	88.	78.	170.	164.	136.	133.
FREIGHT RAILWAY, TRAMWAY CARS (731.6)	51.	73.	73.	65.	65.	108.	99.	83.	83.	185.	184.	142.	141.
ROAD MOTOR VEHICLES (732)	2227.	3697.	3683.	3407.	3397.	4927.	4905.	4263.	4250.	9361.	9305.	7473.	7444.
PASSENGER MOTOR CARS (732.1)	466.	762.	762.	704.	704.	1018.	1018.	865.	865.	1911.	1911.	1477.	1477.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	1164.	2094.	2094.	1973.	1973.	2806.	2806.	2484.	2484.	5390.	5390.	4486.	4486.
MOTOR CYCLES (732.9)	30.	52.	52.	43.	43.	68.	68.	50.	50.	114.	114.	67.	67.
ROAD VEHICLES OTHER THAN MOTOR (733)	97.	239.	239.	227.	227.	321.	321.	288.	288.	624.	624.	519.	519.
CYCLES (733.1)	10.	17.	17.	15.	15.	21.	21.	18.	18.	38.	38.	27.	27.
AIRCRAFT (734)	391.	478.	471.	443.	437.	617.	608.	534.	528.	1180.	1168.	936.	927.
SHIPS AND BOATS (735)	1030.	773.	770.	692.	698.	1051.	1048.	870.	868.	2006.	1996.	1486.	1482.
MANUFACTURES OF METALS (69)	1348.	1980.	1963.	1814.	1787.	3116.	3050.	2797.	2692.	7284.	7135.	6058.	5974.

SOURCE: ECONOMETRIC RESEARCH LTD.

ARAB EAST

TABLE: 4.19 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

PRODUCTS	1977	1985				1990				2000			
	ACTUAL VALUES	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	18929.	37139.	42138.	34614.	38675.	55570.	62886.	49661.	51026.	104467.	132203.	71234.	90029.
TOTAL MACHINERY NON-ELECTRIC (71)	7380.	14389.	16471.	13394.	15037.	21464.	24916.	17668.	19871.	40187.	51821.	27398.	35284.
TOTAL ELECTRICAL MACHINERY (72)	4992.	8912.	9658.	7975.	8922.	12792.	14492.	10939.	11771.	24123.	38313.	16584.	25699.
TOTAL TRANSPORT EQUIPMENT (73)	6593.	15459.	19249.	13696.	13498.	17994.	19446.	16628.	16288.	36397.	34197.	25237.	23744.
POWER GENERATING MACHINERY (711)	1041.	2103.	2833.	1736.	1678.	2568.	2548.	2563.	1971.	4771.	4277.	3839.	2787.
STEAM ENGINES (711.1, 2, 3)	275.	486.	392.	329.	318.	516.	493.	398.	388.	956.	861.	608.	545.
AIR CRAFT ENGINES (711.4)	121.	247.	244.	222.	219.	322.	314.	289.	284.	598.	551.	489.	386.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	387.	901.	869.	739.	713.	1144.	1098.	848.	839.	2048.	1831.	1294.	1198.
GAS TURBINES (711.6)	238.	588.	493.	421.	489.	627.	602.	498.	479.	1891.	984.	698.	624.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	319.	597.	683.	497.	493.	716.	794.	598.	581.	1247.	1203.	869.	823.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	46.	74.	74.	66.	66.	96.	95.	78.	77.	164.	158.	109.	109.
DAIRY FARM EQUIPMENT (712.3)	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
TRACTORS (712.5)	217.	384.	380.	342.	340.	498.	489.	411.	405.	892.	847.	611.	581.
OFFICE MACHINERY (714)	113.	241.	240.	217.	236.	342.	342.	299.	299.	622.	619.	456.	494.
TYPEWRITERS (714.1)	29.	57.	56.	58.	58.	74.	72.	62.	60.	138.	130.	96.	91.
CALCULATING MACHINERY (714.2)	23.	57.	56.	58.	58.	73.	71.	61.	60.	172.	124.	92.	87.
STATISTICAL MACHINERY (714.3)	30.	76.	76.	62.	61.	86.	86.	77.	71.	162.	153.	114.	138.
METAL WORKING MACHINERY (715)	198.	641.	804.	579.	709.	867.	1204.	782.	951.	1806.	2737.	1268.	1818.
MACHINE TOOLS (715.1)	150.	389.	475.	356.	424.	586.	711.	477.	565.	1128.	1579.	768.	1055.
TEXTILE AND LEATHER MACHINERY (717)	194.	301.	541.	336.	454.	562.	798.	448.	599.	1039.	1796.	684.	1120.
TEXTILE MACHINERY (717.1)	153.	293.	425.	258.	354.	411.	619.	344.	467.	790.	1371.	520.	871.
SEWING MACHINERY (717.3)	39.	97.	103.	77.	91.	120.	152.	103.	120.	245.	333.	161.	221.
SPECIAL INDUSTRIAL MACHINERY (718)	1913.	3252.	3833.	3036.	3484.	4861.	5714.	4017.	4812.	9120.	12221.	6247.	8282.
PAPER AND PULP MACHINERY (718.1)	79.	46.	53.	42.	46.	68.	77.	55.	61.	120.	158.	80.	106.
PRINTING MACHINERY (718.2)	45.	155.	194.	148.	172.	233.	298.	189.	238.	456.	662.	305.	442.
FOOD PROCESSING MACHINERY (718.3)	73.	164.	221.	136.	179.	228.	309.	176.	229.	433.	648.	278.	422.
CONSTRUCTION, MINING MACHINERY (718.4)	941.	2377.	2364.	2042.	2034.	2785.	2671.	2352.	2325.	4832.	4694.	3496.	3377.
MINERAL PROCESSING MACHINERY (718.51)	363.	1442.	1748.	1316.	1599.	2175.	2610.	1771.	2088.	4235.	5882.	2651.	3958.
GLASS WORKING MACHINERY (718.52)	1.	19.	20.	18.	18.	28.	38.	24.	24.	58.	67.	35.	47.
OTHER SPECIAL MACHINERY (719)	3949.	12603.	13983.	10539.	11233.	18181.	19223.	13769.	14481.	34863.	37943.	21798.	23594.
AIR-CONDITIONING MACHINERY (719.1,2)	318.	1053.	1271.	842.	1081.	1494.	1804.	1176.	1414.	3009.	4188.	1954.	2748.
INDUSTRIAL FURNACES, STOKERS, OVENS (719.1,3,14)	64.	221.	288.	147.	235.	313.	398.	249.	311.	617.	928.	403.	618.
REFRIGERATING EQUIPMENT (719.15)	196.	660.	752.	555.	633.	919.	1049.	723.	819.	1806.	2288.	1171.	1491.
OTHER HEATING, COOLING EQUIPMENT (719.11,19)	619.	1394.	1649.	1130.	1377.	1883.	2291.	1481.	1749.	3794.	5233.	2435.	3431.
PUMPS AND CENTRIFUGES (719.2)	745.	1673.	1655.	1269.	1246.	1787.	1783.	1488.	1379.	3221.	3144.	2075.	2016.
MECHANICAL HANDLING EQUIP (719.3)	818.	1462.	1665.	1182.	1345.	1918.	2208.	1499.	1658.	3718.	4716.	2392.	3092.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	7.	17.	17.	17.	17.	23.	23.	21.	21.	41.	41.	31.	31.
POWERED-TOOLS, OTHER (719.5)	105.	296.	393.	238.	286.	375.	456.	298.	359.	742.	1046.	486.	691.

PACKAGING MACHINERY (719.62)	69.	140.	179.	118.	148.	195.	249.	155.	194.	390.	567.	268.	371.
WEIGHING MACHINERY (719.63)	11.	39.	47.	33.	40.	55.	67.	43.	52.	107.	151.	70.	99.
SPRAYING, VENDING, OTHER MACHINERY (719.61, 64, 65, 69)	65.	139.	160.	108.	127.	167.	197.	171.	196.	327.	440.	211.	297.
BALL, ROLLER BEARINGS (719.7)	14.	58.	72.	52.	62.	96.	106.	60.	82.	197.	236.	105.	159.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	982.	1816.	1816.	1782.	1782.	2567.	2567.	2228.	2228.	4492.	4492.	3283.	3283.
ELECTRICAL POWER MACHINERY (722)	1760.	3631.	3593.	3358.	3292.	5241.	5123.	4260.	4171.	9478.	9849.	6421.	6137.
POWER TRANSFORMING MACHINERY (722.1)	1119.	2298.	2292.	2141.	2104.	3329.	3263.	2720.	2678.	6812.	5770.	4899.	3939.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	669.	1484.	1452.	1365.	1337.	2129.	2078.	1728.	1689.	3871.	3677.	2614.	2482.
INSULATED WIRE AND CABLE (723.1)	617.	1385.	1354.	1278.	1243.	1984.	1939.	1608.	1570.	3610.	3423.	2432.	2306.
TELECOMMUNICATIONS APPARATUS (724)	1237.	2615.	2592.	2390.	2332.	3316.	3263.	2852.	2812.	6887.	5828.	4359.	4109.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	303.	684.	684.	677.	677.	966.	966.	852.	852.	1742.	1742.	1289.	1299.
MEDICAL APPARATUS (726)	30.	85.	83.	77.	76.	120.	118.	97.	95.	219.	208.	148.	141.
ELECTRICAL MACHINERY OTHER (729)	546.	1522.	1815.	1288.	1534.	2134.	2551.	1682.	1954.	4182.	5729.	2711.	3759.
BATTERIES AND ACCUMULATORS (729.1)	47.	235.	284.	202.	244.	328.	408.	267.	320.	673.	939.	430.	610.
ELECTRIC LAMPS (729.2)	22.	89.	102.	91.	92.	131.	152.	100.	123.	252.	342.	171.	232.
VALVES, TUBES, ETC. (729.3)	3.	36.	39.	31.	33.	50.	54.	39.	42.	90.	103.	58.	57.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	56.	145.	144.	135.	133.	189.	186.	162.	160.	334.	321.	238.	230.
MEASURING APPARATUS (729.5)	145.	431.	496.	348.	403.	560.	651.	440.	508.	1098.	1435.	710.	939.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	28.	47.	48.	41.	42.	60.	52.	51.	52.	112.	117.	79.	93.
ELECTRON AND PROTON ACCELERATORS (729.7)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC FURNACES (729.92)	55.	170.	212.	145.	188.	244.	304.	192.	236.	487.	701.	316.	497.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	9.	28.	19.	15.	15.	23.	22.	18.	17.	43.	39.	28.	25.
ELECTRIC CONDENSORS (729.95)	2.	3.	3.	2.	2.	3.	3.	3.	2.	7.	6.	4.	3.
OTHER ELECTRIC EQUIPMENT (729.94 96 98, 99)	129.	240.	306.	198.	253.	339.	438.	268.	333.	678.	1053.	424.	671.
RAILWAY VEHICLES (731)	39.	178.	169.	158.	158.	217.	215.	177.	179.	361.	350.	262.	239.
STEAM LOCOMOTIVES (731.1)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LOCOMOTIVES, OTHER (731.3)	3.	16.	16.	16.	16.	21.	21.	19.	19.	32.	32.	25.	25.
PASSENGERS RAILWAY, TRAMWAY CARS (731.4, 5)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FREIGHT RAILWAY, TRAMWAY CARS (731.6)	6.	25.	25.	23.	23.	32.	31.	27.	26.	51.	46.	35.	31.
ROAD MOTOR VEHICLES (732)	4213.	10960.	10840.	9781.	9685.	13976.	13787.	11809.	11605.	25171.	23877.	17668.	16829.
PASSENGER MOTOR CARS (732.1)	1338.	3151.	3119.	2838.	2811.	4083.	4018.	3471.	3415.	7516.	7159.	5311.	5078.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	2226.	5768.	5648.	4962.	4884.	7319.	7111.	6083.	5848.	13372.	12360.	9085.	8616.
MOTOR CYCLES (732.9)	35.	91.	91.	81.	81.	117.	115.	98.	97.	208.	201.	145.	140.
ROAD VEHICLES OTHER THAN MOTOR (733)	238.	535.	524.	447.	439.	663.	641.	535.	519.	1209.	1106.	807.	739.
CYCLES (733.1)	10.	17.	17.	15.	15.	21.	20.	17.	17.	37.	35.	26.	24.
AIRCRAFT (734)	930.	1929.	1927.	1707.	1709.	2423.	2389.	2030.	2012.	4299.	4063.	3089.	2849.
SHIPS AND BOATS (735)	1166.	3011.	2996.	2859.	2848.	3961.	3929.	3523.	3498.	7192.	7031.	5392.	5247.
MANUFACTURES OF METALS (69)	3132.	5674.	5100.	3808.	3827.	5111.	5106.	4108.	4079.	9194.	8854.	6066.	5767.

SOURCE: ECONOMETRIC RESEARCH LTD.

TOTAL 6480

TABLE: 4.20 FORECAST OF THE DEMAND FOR CAPITAL GOODS
(MILLIONS OF CONSTANT 1980 U.S. DOLLARS)

	1977	1985				1990				2000			
PRODUCTS	ACTUAL VALUE	HT	HO	LT	LO	HT	HO	LT	LO	HT	HO	LT	LO
TOTAL ENGINEERING PRODUCTS (7)	30484.	55491.	61898.	51903.	55980.	81344.	89241.	64189.	73704.	150391.	180889.	113266.	139971.
TOTAL MACHINERY NON-ELECTRIC (71)	12232.	22969.	24967.	20986.	22729.	37028.	36396.	27776.	30190.	63997.	77299.	46910.	56293.
TOTAL ELECTRICAL MACHINERY (72)	6898.	12095.	13345.	11289.	12290.	17823.	19993.	14031.	16226.	34290.	41213.	24796.	29590.
TOTAL TRANSPORT EQUIPMENT (73)	10712.	20419.	20173.	18297.	18100.	26477.	29982.	22357.	22036.	49130.	48831.	35940.	36886.
POWER GENERATING MACHINERY (711)	1633.	3032.	2989.	2902.	2601.	4030.	3073.	3220.	3102.	7794.	7896.	5372.	4478.
STEAM ENGINES (711.1, 2, 3)	383.	688.	578.	983.	403.	819.	701.	697.	627.	1697.	1931.	1189.	1073.
AIR CRAFT ENGINES (711.4)	177.	357.	354.	328.	317.	478.	402.	391.	309.	847.	829.	612.	597.
OTHER INTERNAL COMBUSTION ENGINES (711.5)	639.	1367.	1326.	1197.	1123.	1823.	1796.	1497.	1409.	3461.	3184.	2409.	2193.
GAS TURBINES (711.6)	403.	636.	615.	536.	519.	821.	787.	698.	633.	1914.	1372.	1048.	948.
NUCLEAR REACTORS (711.7)													
AGRICULTURAL MACHINERY (712)	993.	1157.	1190.	1040.	1043.	1512.	1498.	1279.	1289.	2770.	2701.	2091.	2096.
AGRICULTURAL MACHINERY FOR CULTIVATING SOIL (712.1,2)	99.	290.	244.	231.	238.	320.	326.	289.	294.	687.	599.	481.	476.
DAIRY FARM EQUIPMENT (712.3)	5.	10.	10.	9.	9.	13.	13.	12.	12.	26.	26.	22.	22.
TRACTORS (712.5)	390.	757.	792.	679.	678.	993.	943.	826.	810.	1819.	1770.	1310.	1279.
OFFICE MACHINERY (714)	193.	370.	360.	390.	340.	520.	516.	445.	441.	940.	944.	712.	700.
TYPEWRITERS (714.1)	23.	55.	46.	76.	79.	112.	110.	99.	93.	212.	242.	159.	140.
CALCULATING MACHINERY (714.2)	39.	99.	88.	98.	79.	116.	114.	99.	97.	216.	205.	150.	192.
STATISTICAL MACHINERY (714.3)	59.	108.	108.	99.	88.	131.	128.	100.	109.	247.	231.	171.	162.
METAL WORKING MACHINERY (715)	361.	959.	1130.	870.	1043.	1417.	1731.	1195.	1404.	2011.	3924.	2064.	2086.
MACHINE TOOLS (715.1)	299.	696.	790.	636.	712.	1030.	1170.	845.	961.	2031.	2501.	1505.	1887.
TEXTILE AND LEATHER MACHINERY (717)	547.	908.	1140.	829.	968.	1336.	1586.	1039.	1200.	2390.	3155.	1927.	2036.
TEXTILE MACHINERY (717.1)	425.	810.	942.	691.	788.	1110.	1290.	860.	983.	1924.	2505.	1242.	1594.
SEWING MACHINERY (717.3)	55.	121.	130.	107.	121.	173.	190.	137.	155.	323.	413.	212.	272.
SPECIAL INDUSTRIAL MACHINERY (718)	2403.	4776.	5417.	4441.	4923.	7033.	7940.	5924.	6592.	13540.	17089.	9096.	12300.
PAPER AND PULP MACHINERY (718.1)	111.	187.	119.	97.	106.	156.	172.	133.	144.	302.	376.	233.	290.
PRINTING MACHINERY (718.2)	96.	226.	265.	202.	234.	326.	383.	265.	306.	619.	829.	422.	560.
FOOD PROCESSING MACHINERY (718.3)	212.	299.	381.	254.	318.	419.	535.	332.	414.	806.	1210.	592.	827.
CONSTRUCTION, MINING MACHINERY (718.4)	1436.	3010.	2981.	2623.	2603.	3900.	3919.	3106.	3062.	6573.	6290.	4877.	4698.
MINERAL PROCESSING MACHINERY (718.51)	603.	1809.	2187.	1691.	1960.	2736.	3202.	2263.	2600.	5471.	7642.	3876.	5412.
GLASS WORKING MACHINERY (718.52)	12.	23.	24.	22.	22.	34.	36.	29.	30.	62.	81.	45.	58.
OTHER SPECIAL MACHINERY (718.9)	6403.	16156.	16300.	13711.	14294.	21919.	24320.	18410.	18951.	46751.	48452.	31457.	32499.
AIR-CONDITIONING MACHINERY (719.12)	379.	1100.	1323.	941.	1130.	1560.	1877.	1242.	1479.	3190.	4323.	2079.	2060.
INDUSTRIAL FURNACES, STOKERS, OVENS (719.13,14)	179.	340.	370.	274.	323.	456.	542.	372.	435.	909.	1229.	644.	806.
REFRIGERATING EQUIPMENT (719.15)	252.	724.	817.	613.	690.	1007.	1137.	790.	892.	1974.	2455.	1299.	1626.
OTHER HEATING, COOLING EQUIPMENT (719.1-11,19)	697.	1667.	1972.	1421.	1677.	2334.	2796.	1884.	2199.	4694.	6272.	3231.	4315.
PUMPS AND CENTRIFUGES (719.2)	1209.	2209.	2159.	1729.	1686.	2902.	2518.	2041.	2086.	4961.	4705.	3439.	3298.
MECHANICAL HANDLING EQUIP (719.3)	1324.	2969.	2777.	2169.	2363.	3490.	3840.	2927.	3162.	7100.	8592.	5337.	6390.
DOMESTIC APPLIANCES, NON-ELECTRIC (719.4)	18.	28.	28.	27.	27.	38.	38.	33.	33.	69.	69.	52.	52.
POWERED-TOOLS, OTHER (719.5)	181.	473.	538.	482.	455.	635.	722.	531.	595.	1295.	1657.	997.	1217.

PACKAGING MACHINERY (719.62)	112.	227.	276.	192.	233.	316.	387.	291.	304.	659.	990.	418.	584.
WEIGHING MACHINERY (719.63)	29.	64.	73.	96.	63.	90.	190.	72.	90.	160.	212.	116.	149.
SPRAYING, VENDING, OTHER MACHINERY (719.64, 66, 69, 99)	123.	217.	238.	188.	199.	271.	301.	220.	245.	925.	637.	385.	440.
BALL, ROLLER BEARINGS (719.7)	58.	103.	121.	91.	104.	146.	173.	119.	138.	277.	381.	195.	268.
APPLIANCES, PARTS AND ACCESSORIES, OTHER (719.8, 9)	1557.	2890.	2999.	2817.	2824.	4130.	4151.	3999.	3888.	7874.	7709.	9841.	9924.
ELECTRICAL POWER MACHINERY (722)	2907.	4680.	4977.	4309.	4221.	5829.	6663.	5630.	5588.	12986.	12331.	9234.	8761.
POWER TRANSFORMING MACHINERY (722.1)	1927.	2898.	2837.	2697.	2636.	4238.	4169.	3910.	3438.	4837.	7662.	5737.	5464.
EQUIPMENT FOR DISTRIBUTIN ELECTRICITY (723)	997.	1889.	1824.	1712.	1678.	2595.	2620.	2219.	2182.	5134.	4478.	3689.	3428.
INSULATED WIRE AND CABLE (723.1)	824.	1746.	1784.	1599.	1562.	2542.	2479.	2093.	2048.	4903.	4625.	3472.	3269.
TELECOMMUNICATIONS APPARATUS (724)	1934.	3595.	3972.	3248.	3238.	4824.	4971.	3968.	3927.	4528.	8269.	6248.	6877.
TELEVISION SETS (724.1)													
RADIO SETS (724.2)													
DOMESTIC ELECTRICAL EQUIPMENT (725)	388.	828.	826.	918.	918.	1196.	1196.	1028.	1028.	2118.	2118.	1587.	1587.
MEDICAL APPARATUS (726)	61.	122.	119.	111.	109.	171.	167.	140.	137.	314.	308.	222.	217.
ELECTRICAL MACHINERY OTHER (729)	956.	2219.	2987.	1924.	2175.	5096.	5473.	2478.	2782.	9903.	7498.	4846.	5893.
BATTERIES AND ACCUMULATORS (729.1)	128.	306.	395.	267.	309.	431.	981.	547.	488.	866.	1111.	573.	753.
ELECTRIC LAMPS (729.2)	66.	122.	138.	112.	122.	175.	196.	164.	160.	331.	421.	238.	291.
VALVES, TUBES, ETC. (729.3)	27.	55.	58.	48.	58.	77.	40.	41.	63.	149.	155.	99.	105.
AUTOMOTIVE ELECTRICAL EQUIPMENT (729.4)	129.	238.	237.	221.	220.	312.	309.	260.	287.	567.	594.	422.	413.
MEASURING APPARATUS (729.5)	243.	609.	674.	918.	969.	797.	887.	661.	799.	1537.	1873.	1047.	1276.
ELECTRO-MECHANICAL HAND TOOLS (729.6)	34.	50.	61.	53.	59.	78.	40.	57.	68.	109.	153.	109.	112.
ELECTRON AND PROTON ACCELERATORS (729.7)	1.	0.	3.	0.	0.	3.	0.	6.	9.	0.	0.	5.	0.
ELECTRO-MAGNETIC APPLIANCES (729.91)	[illegible]	1.	1.	1.	1.	2.	2.	1.	1.	4.	4.	2.	2.
ELECTRIC FURNACES (729.92)	90.	255.	249.	226.	259.	369.	429.	303.	347.	763.	969.	532.	681.
ELECTRIC TRAFFIC CONTROL EQUIPMENT (729.93)	17.	42.	42.	39.	34.	54.	53.	43.	42.	103.	97.	71.	67.
ELECTRIC CONDENSORS (729.95)	5.	9.	9.	9.	7.	12.	12.	10.	10.	26.	22.	17.	16.
OTHER ELECTRIC EQUIPMENT (729.94, 96, 98, 99)	219.	288.	391.	239.	292.	397.	403.	307.	377.	769.	1149.	498.	761.
RAILWAY VEHICLES (731)	316.	516.	513.	451.	449.	676.	671.	545.	542.	1159.	1141.	815.	804.
STEAM LOCOMOTIVES (731.1)	1.	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ELECTRIC LOCOMOTIVES (731.2)	3.	8.	8.	8.	8.	13.	13.	13.	13.	31.	29.	29.	27.
LOCOMOTIVES, OTHER (731.3)	69.	81.	88.	71.	78.	108.	107.	87.	86.	184.	181.	128.	125.
PASSENGER RAILWAY, TRAMWAY CARS (731.4, 5)	80.	71.	69.	63.	62.	94.	91.	80.	78.	170.	164.	136.	133.
FREIGHT RAILWAY, TRAMWAY CARS (731.6)	57.	98.	97.	88.	88.	132.	131.	118.	118.	236.	230.	177.	173.
ROAD MOTOR VEHICLES (732)	6642.	14657.	14522.	13188.	13081.	11903.	18611.	16872.	15855.	34531.	33162.	25141.	24277.
PASSENGER MOTOR CARS (732.1)	1804.	3914.	3881.	3541.	3519.	5093.	5020.	4336.	4280.	9426.	9869.	6788.	6695.
BUSES, LORRIES, TRUCKS (732.2, 3, 4)	1340.	7842.	7742.	6939.	6897.	10126.	9917.	8447.	8332.	16762.	17750.	13602.	12823.
MOTOR CYCLES (732.9)	65.	143.	143.	124.	124.	189.	184.	148.	147.	322.	319.	212.	207.
ROAD VEHICLES OTHER THAN MOTOR (733)	327.	774.	763.	675.	666.	984.	953.	821.	807.	1833.	1730.	1326.	1290.
CYCLES (733.1)	20.	34.	34.	30.	29.	42.	42.	35.	35.	75.	73.	53.	52.
AIRCRAFT (734)	1281.	2487.	2399.	2150.	2146.	1048.	2997.	2513.	2548.	5488.	5231.	3969.	3776.
SHIPS AND BOATS (735)	2196.	3784.	3767.	3592.	3539.	5013.	4976.	4393.	4366.	5197.	9827.	6838.	6729.
MANUFACTURES OF METALS (69)	4481.	7854.	7863.	5623.	5614.	5228.	8157.	6665.	6771.	16469.	15989.	12126.	11761.

SOURCE: ECONOMETRIC RESEARCH LTD.

5.0 A Strategy For The Development of A Viable Capital Goods Industry with the Arab World

5.1 Some Preliminary Observations

Obviously, there is not a complete industrial structure in the absence of a mature and viable capital goods producing sector. Most sequences of production invôlve the use of machinery and gaps in the inter-industry network in this sector are detrimental to a well functioning manufacturing system. Although the capital goods producing sector occupies a pivotal position in the network of production of any economy given that most production processes depend on its prior existence, whereas it does not depend for its existence except on only a few sectors of the economy, there are nevertheless a number of initial pre-requisites for its development and sustenance.

Generally, the minimum efficient size is too large for any single or even regional economy. Second a solid engineering infrastructure is also essential. A whole host of engineering services are needed, particularly those involving ferrous and non-ferrous foundry work, forging, pressing, general fabrication and specialized machinery. These services are required not only for complex and heavy capital goods industries, but also for even light and medium capital goods production and maintenance. Third, there is a definite technical sequence to be followed, where the production of one type of capital goods requires a production capability in other related capital goods to be developed first. Fourth, there are specific requirements for technological and design capabilities associated with the production of any type of capital goods, but such requirements escalate in complexity and sophistication in step with the complexity of the product.

It follows that an Arab strategy for the development of a viable capital goods producing sector must of necessity consider the following factors:

First, the question of timing is crucial. The strategy must sequence production over time to parallel the development of ancillary services and inter-industrial connectives.

Second, supra-national coordination of investment is a matter of necessity in this sector. As long as the minimum viable scale of production is larger than the domestic local demand, arrangements of production must be on regional or sub-regional basis.

Thus, whereas the first consideration calls for time-sequencing of production, the second consideration calls for a spatial allocation of production processes.

Third, the development of a solid engineering infra-structure on both the national and regional levels.

Fourth, the development and promotion of research, design and product development on at least the Arab sub-regional basis. It is difficult to conceive that any Arab country by itself is either capable or can afford undertaking this costly and generally uncertain activity. Collectively, thinly available resources can be pooled to generate the minimum thresholds needed to start this type of activities, to pool risks and spread costs. Fifth, the chains of production in this sector are clear and specific. Thus, the Arab strategy should involve focusing on these micro links and as such the whole range of activities needed for a production program should be enumerated and tied together. Products could be nested together, either on the basis of their complexity of production or according to the backward and forward linkages that bind them. As such, there is no substitute for a feasibility study on the basis of the smallest product groups.

Notwithstanding these stringent and demanding requirements, we shall venture below into using our forecasts as a basis for a very preliminary taxonomy of developing capital goods industries in the Arab world. Our forecasts provide suitable guides to the individual, sub-regional and regional demand for 81 commodity groups. These demand forecasts need to be squared against estimates of minimum efficient scales associated with each product group and against the requisite engineering infra-structure and technology. This cross-classification could provide the grounds for identifying potential candidates for further feasibility studies.

The first screening should be along the degree of complexity of technology. On this basis four broad groups of industries are identified. Group A includes industries that use simple technologies such as textile machinery (spinning machines, weaving and knitting machines, dressing, washing and bleaching machines as well as colendering and rolling machines), construction machinery (crawler dozers, crawler loaders, dump trucks, wheeled loaders, cement mixers, hydraulic excavators, loader blackhoes, motor graders, scrapers, etc.), agricultural machinery (particularly tractors, ploughs, seeders, planters, distributors harrows, hoes, scarifiers, grain milling, oil seed crushing, olive oil presses, etc.), pumps and centrifuges, trucks, buses and lorries, domestic tools.

Group B includes industries which use technologies of intermediate complexity and often depend on the prior existence of some wide range of engineering services. This group includes: office & statistical machinery, machine tools, special industrial machinery, printing machinery, food processing machinery, mineral processing machinery, refrigerating equipment, mechanical handling equipment, heating and cooling equipment, powered tools, packaging machinery, weighing machinery, ball, roller bearings, etc.

Group C comprises industries that require complex technologies to produce their capital goods products and also require a complex and wide range of design and product development capabilities. Some of the products included in this set are: engines, electrical generators and transformers, steam generating boilers and pressure vessels for oil and petrochemical refineries, telecommunications apparatus, electro-mechanical tools, electro-magnetic appliances, railway vehicles, etc.

Certainly a time sequence and a technical sequence or chain may be defined over these industry groups. For instance, simple products may be produced in the short-term, whereas intermediate products may be produced in the medium-term and complex products in the long-term. Alternatively, engines should not be produced before the development of using products like trucks, tractors, etc..

Factor endowments or factor intensities involved in the production processes of each product must be identified and then costed to arrive at a comparative cost picture of the respective products. Costing needs to be carried out in terms of domestic and international prices.

All the factors above are supply-related factors and generally identify relative cost and technical feasibility. To arrive at economic feasibility the demand factors need to be considered too. Here our forecasts can play a major role, particularly since they are ranged and regionally differentiated.

The fact that a high and a low are presented allows the industrial planners to define the critical bounds on the expected demand. For instance, if the minimum efficient scale is larger than the maximum demand, it follows that a viable industry in this field may not be sustained. If, however, the minimum efficient scale is somewhere between the minimum forecast and the maximum one, some hard choices need to be made and further micro-studies may be needed.

Alternatively, the regional differentiation of our forecasts, should help in the industrial planners in identifying the minimum geographical area that is capable of sustaining the industry under consideration.

There are two ways to illustrate the utility of our procedure. The first involves drawing a master matrix which lists the products to the smallest available detail and then classifies each product according to the complexity of technology, the factor intensities involved, the size of the respective domestic, sub-regional and regional market, and the minimum viable scale of production. It is only within this broad framework that a comprehensive and comparative picture may be obtained. Alternatively, a detailed product by product discussion may be undertaken taking into consideration the relevant criteria developed above.

By way of an example of the applicability of this approach, a limited discussion is undertaken below of a selective group of capital goods that are of specific relevance to the Arab area.

5.2 A Selective Sample of Relevant Industries

We begin by selecting one industry from each of the three groups identified above. From group A, we select textile machinery, from Group B we select food processing machinery and from group C electrical transformers.

5.2.1 Textile Machinery

In 1977 the total Arab demand for textile machinery was $425 million in 1980 prices. By 1985, it is expected that this demand will reach $942 million in constant 1980 prices under the off-trend high GDP growth assumptions. Even when trend sectoral shares were to remain in effect and Arab GDP were to grow at slow rates, the demand for this type of machinery is estimated to be about $691 million in constant 1980 prices. The corresponding demands in 1990 are $1.3 billion for the HT case and $860 million for the LT forecasts. By the year 2000, the HT conditions call for a demand of $2.5 billion, whereas the LT assumptions stipulate a demand of $1.2 billion (all the forecasts are in constant 1980 U.S. dollars).

Bleaching, washing and dressing machines are expected to represent the major components of this forecast demand followed by spinning machinery. The technology of producing these machines is generally simple and the engineering infra-structure required for their production is generally available in the Arab world particularly in Syria, Egypt, Iraq, Morocco and Algeria. Given also that sub-regional demands for these machinery are concentrated in the Fertile Crescent, Nile Valley and Maghreb, and are generally above the minimum viable efficient scale of production, a sub-regional orientation of production is advisable. Egypt could satisfy the Nile Valley market, Syria the Fertile Crescent, and Algeria and/or Morocco the Maghreb market. Syria and Iraq could team to meet the relatively limited demand for these products in the GCC group.

The relative factor intensities used in the production processes of these products are generally less capital intensive than most other used in the production of capital goods and that is why it might be advisable to allocate the production of these machines to non-oil producing Arab states.

5.2.2 Food Processing Machines

There are already a large number of small mills, olive oil presses and oil seed crushers in the Arab world, and there is at present some Arab production of these machines. What is needed, however, is a rationalization of these activities which necessitates the use of larger and relatively more complex machines. The Arab market for these machines is sufficiently large to allow for their local production. Big production plants involve complex domestic design, construction and maintenance capabilities which limit the candidates to produce these machines to a few Arab countries. Besides, the capital requirements for the production of these machines is also relatively high, which restricts further the candidates or their sponsors. Saudi Arabia, Iraq, Algeria, Egypt and Syria are potential candidates. Other countries like Lebanon, Morocco, and Tunisia could enter production given multi-lateral investment and marketing agreements.

Our forecasts show that a demand of $1.2 billion in constant 1980 U.S. dollars may be realized in the year 2000 for food processing machinery in the Arab world. Even the lowest scenario calls for a $552 million in the medium-term demand in 1990 is projected to range between a minimum of $332 million and $535 million.

5.2.3 Power Transformers

Arab demand for power transforming machinery in 1977 was as high as $1.5 billion in constant 1980 U.S. dollars. By 1985 the forecast is to range between a high of $2.9 billion and a low of $2.7 billion. The narrow range of the forecast is indicative of a robust and significant demand for this type of machinery even in the short run. The demand is slated to rise to $4.2 billion in 1990 for the (HT) forecast and to a low of $3.4 billion under (LO) conditions. By the year 2000 the high forecast is over $8 billion and even the low forecast is a significant $5.5 billion.

Since demand is presumed to be sufficient, supply factors play the crucial role in determining production strategies. This is a complex product which requires complex technologies to produce and sustain. Furthermore, its capital requirements are high and it is generally skills intensive.

A credible strategy would start with small power transformers for local distribution and power transmission of up to 10 MVAs. Demand in the Arab world will most likely be concentrated in the 1.25 MVA variety where over 35,000 units may be needed.

Large facilities in a selected number of Arab countries may be started, particularly in countries with sufficient capital and metal working industries. Since this industry is noted for split production possibilities, its initial development could be spread and shared.

6.0 Conclusion

The Arab world is expected to continue to demand a significant amount of capital goods. This demand is going to be concentrated in the Arab oil producing countries; however, since these countries are well spread geographically, the sub-regional groupings will form balanced economic entities within which capital goods production may very well prove viable and profitable.

Although our study is primarily concerned with the demand side of the capital goods market an attempt was made to relate this demand to the main supply considerations. A complete and practical strategy for the production of capital goods in the Arab world cannot be expected to emerge except in the context of a comprehensive feasibility study at the smallest homogeneous product group. The main points to be emphasized in formulating such a strategy have already been outlined in this study.

There remains two points to be emphasized before concluding this study. First, this has been a massive study in terms of data requirements and experimentation. As such, special attention to details was not possible. Therefore, the conclusions of this study must be interpreted with care as all the forecasts are conditional on the accuracy of the data and the truthfulness of the many assumptions made regarding the many parameters of the model.

Second, capital goods production is a necessary but difficult endeavour; it requires a large set of pre-requisites and pre-conditions. More importantly it requires a long gestation period and it is sensitive to size. This calls for immediate action now and for serious Arab coordination and cooperation.

Appendix

Sector Identification

Sector Name	Sector Number
Agriculture	1
Mining	2
Oil	3
Manufacturing	4
Electricity and Gas	5
Construction	6
Trade	7
Transportation and Communication	8
Finance	9
Community Services	10

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ARAB DEMAND FOR CAPITAL GOODS IN THE SHORT, MEDIUM AND LONG TERM

(please check appropriate box)

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